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Joint
Computer-aided Acquisition
and Logistic Support (JCALS)
CALS Technology Center (CTC)

# COMPUTER-ASSISTED DATA ACCEPTANCE JEDMICS/CADA END USER MANUAL

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Prepared for:

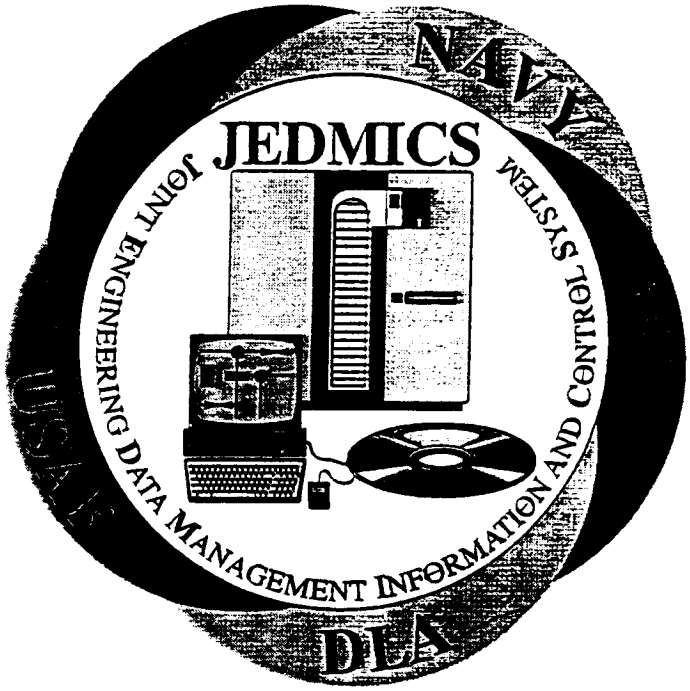
Department of the Army
PM JCALS

Prepared By:

ACCURATE Information Systems, Inc.
Meridian Center 1
2 Industrial Way West
Eatontown, New Jersey 07724

# *Joint Engineering Data Management Information And Control System/ Computer-Assisted Data Acceptance (JEDMICS/CADA)*

## *End User Manual*

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# *COMPUTER-ASSISTED DATA ACCEPTANCE JEDMICS/CADA END USERS MANUAL*

## SECTION 1
## GENERAL

### 1.1 Purpose of the End User Manual

The objective of the End User Manual for the Joint Engineering Data Management Information Control Systems/Computer-Assisted Data Acceptance (JEDMICS/CADA) software is to provide the end user with the information necessary to use the system effectively.

### 1.2 Purpose of the System

The JEDMICS/CADA software provides for the automated Quality Assurance (QA) of raster engineering drawing data for quality, legibility, and reproducibility of the drawing. In addition, the JEDMICS/CADA software provides automated validation of the key Identification (ID) data within the body of the drawing with the equivalent header ID fields. For this release, data is input directly from the JEDMICS Permanent or Pending repositories. Output to Pending is provided for batches, if they originated from Pending and have been evaluated. CALS-compliant data can also be input from a properly configured 9-track tape or local disk directory and output back to the tape. All development has been on a Sun-compatible platform using C language and Motif for the Graphical User Interface (GUI). The application of the JEDMICS/CADA software by QA users should result in more efficient and cost-effective acceptance and use of raster data.

### 1.3 References

The following publications provide additional information about the procurement, implementation, and delivery of engineering data in CALS electronic format, data acceptance, and JEDMICS/CADA software and procedures.

MIL-STD-1840A *Automated Interchange of Technical Information*

MIL-PRF-28002B *Raster Graphics Representation in Binary Form, Requirements for*

MIL-HDBK-59B *DoD CALS Implementation Guide*

ANSI Y14.1-1980 *Drawing, Sheet, Size, and Format*

## 1.4 Terms and Abbreviations

| | |
|---|---|
| ANSI | American National Standards Institute |
| API | Application Program Interface |
| CAD | Computer-aided Design |
| CADA | Computer-Assisted Data Acceptance |
| CALS | Commerce At Light Speed |
| CCITT | Consultative Committee for International Telegraphy and Telephone |
| CECOM | Communications Electronics Command |
| COTS | Commercial-off-the-shelf |
| CPU | Central Processing Unit |
| CTC | CALS Technology Center |
| CTN | CALS Test Network |
| DIU | Document Image Understanding |
| DLA | Defense Logistics Agency |
| DSREDS | Digital Storage and Retrieval Engineering Data System |
| EDCARS | Engineering Data Computer Assisted Retrieval System |
| FY | Fiscal Year |
| GB | Gigabyte |
| GUI | Graphical User Interface |
| ICR | Intelligent Character Recognition |
| ID | Identification Data |
| JCALS | Joint Computer-aided Acquisition and Logistic Support |
| JEDMICS | Joint Engineering Data Management Information Control Systems |
| MB | Megabyte |
| MICOM | Missile Command |
| MR | Modification Request |
| NASA | National Aeronautics and Space Administration |
| OASD | Office of the Assistant Secretary of Defense |
| OCR | Optical Character Recognition |
| OS | Operating System |
| PDL | Page Description Language |
| PM | Program Manager |
| POCs | Points of Contact |
| POC | Proof-of-Concept |
| QA | Quality Assurance |
| RAM | Random Access Memory |
| ROI | Region of Interest |
| ROM | Read Only Memory |
| TIFF | Tagged Image File Format |
| VLSI | Very Large Scale Integration |

## 1.5 Security

Security for this release is limited to the password a user has for his or her Unix account and a single JEDMICS/CADA account for the local JEDMICS system. JEDMICS/CADA does not provide any individual identification or security to stop users from viewing images, overriding evaluation results, modifying header data, or outputting images. The system administrator should be responsible for controlling who has access to the system and for training users on basic security measures when using a multi-user computer operation system.

The system administrator should set each user's account with the user's JEDMICS/CADA directory structure that can not be written to or read by any other user. This, coupled with the user account passwords, should provide basic protection from users manipulating anyone else's active data.

# SECTION 2
# SYSTEM SUMMARY

## 2.1 Overview

This section provides a non-technical presentation of information on the overall JEDMICS/CADA system. More detailed technical information is located in Sections 3 and 4.

### 2.1.1 Application Summary

JEDMICS/CADA is a quality analysis tool that works on raster data. It evaluates the compliance to MIL-STD-1840A, MIL-PRF-28002A, and C4 as well as the quality of images using automated techniques. JEDMICS/CADA also locates and recognizes the key ID data within the raster image, and verifies the accuracy of the supplied header ID (Hollerith) information for the image.

JEDMICS/CADA allows a user to input data, perform automated evaluation of images, view/print the images, override the automated results if necessary, generate reports, and output the evaluated batch. JEDMICS/ CADA operates in a stand-alone environment on a Sun SPARCstation that has an interface to a tape drive and a PostScript printer. The operator initiates the loading and automated processing of the image data, analyzes the results, and views images to make a final accept/reject decision for the batch. Once an evaluation has been completed, the user can output the accepted, the rejected, or all of the images from the batch to tape or a directory. If the Batch was originally input from JEDMICS Pending, the operator may only output the Evaluated Batch to Pending. The functional configuration of the JEDMICS/CADA system is shown in Figure 1.

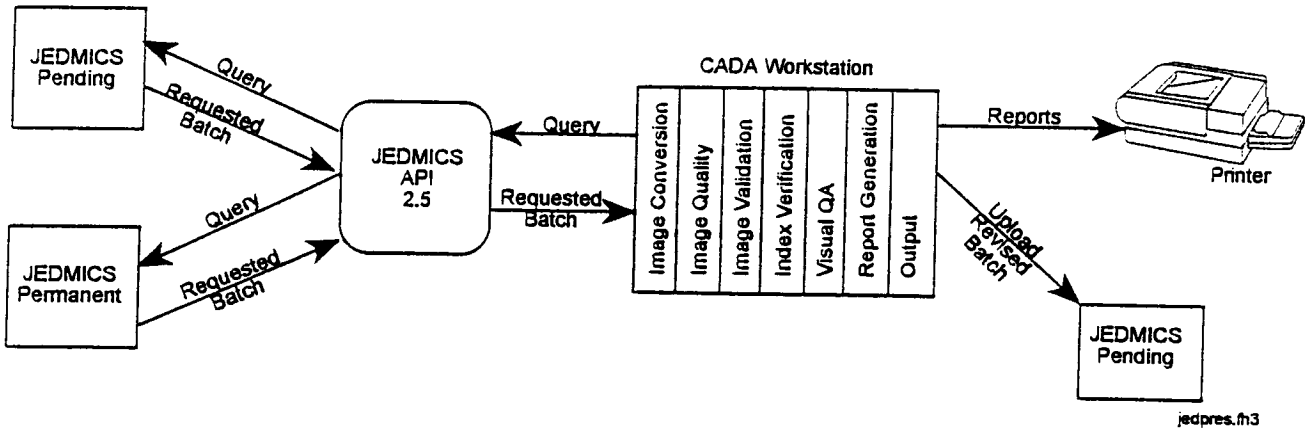



*Figure 1. JEDMICS/CADA Functional Configuration*

### 2.1.2 Performance

The speed of the JEDMICS/CADA software is dependent on several factors. Most important are the processor speed and amount of Random Access Memory (RAM) installed in the workstation. The Central Processing Unit (CPU) and memory intensive operations of the automated evaluation, as well as decompression of images for viewing, are greatly affected by these two factors. The amount of processes running on the machine will also affect system performance. It is suggested that evaluations be run when the load on the system is low.

The size and content of the images in a batch also affect system throughput. Larger size drawings, such as D and E size images, take longer to evaluate and to decompress than A size images. This is because there are approximately nine to sixteen times more compressed data to process. Poor quality raster data takes longer to evaluate since JEDMICS/CADA will try several approaches to perform ID Intelligent Character Recognition (ICR) verification.

If data originates from JEDMICS, it is recommended that the JEDMICS/CADA Intelligent Rotation Option be turned ON. This processing adds additional time. However, it is needed to determine the appropriate rotation of the image since this information is not found in the JEDMICS index or the downloaded C4 file. If JEDMICS/CADA is used remotely, display performance will be degraded because X windows data is sent over a channel that may have low bandwidth and/or high network traffic.

### 2.1.3 Controls

Various utilities are provided to manage the JEDMICS/CADA environment. These utilities can be used to remove any active batches and reset the batch index. Users can configure JEDMICS/CADA from within the application and tailor its operation to conform to various site-specific practices.

## 2.2 System Environment

JEDMICS/CADA is designed to operate on a Sun compatible workstation using Sun's Operating System (OS) 4.1.X. Since JEDMICS/CADA's GUI is built on X windows, the application can be used remotely over a network on any X server terminal.

### 2.2.1 Hardware Required

- A Sun SPARCstation or compatible with at least 20 megabytes (MBs) of hard disk space for application-related files. Additional space is needed to load raster data files and store index information. The space needed is dependent on the size of the batches to be loaded. At least 100 MBs of space is recommended for temporary data storage.

- The JEDMICS/CADA system requires at least 32 MBs of RAM. JEDMICS/CADA will perform best with 64 MBs or more of RAM.

- A Sun-compatible keyboard and mouse.

- A high resolution monitor and video card capable of X windows display. A monitor and video card capable of 1600 x 1280 resolution is recommended.
- A 3 $^{1}/_{2}$ inch high density floppy drive or $^{1}/_{4}$ inch cartridge tape drive to load the software.
- A PostScript printer to print reports, batch data lists, and raster images.
- At least 1.5 times more swap space than the available RAM in the system (e.g., with 16 MBs of RAM, there should be at least 24 MBs of swap space).
- JEDMICS API version 2.5
- A 9-track tape drive to input or output CALS-compliant data is optional.

### 2.2.2 Software Required

- Sun OS version 4.1.4 (Solaris version 1.1.2).
- OpenWindows version 3.x.

## 2.3 Contingencies and Alternate Modes of Operation

There are no contingencies or alternate modes of operation for JEDMICS/CADA during peacetime, war, or conditions of alert.

## 2.4 Assistance and Problem Reporting

If software or hardware problems are encountered, contact your system administrator. Any problems should be documented and reported to a JEDMICS/CADA support organization.

# SECTION 3
# ACCESS TO THE SYSTEM

## 3.1 First-Time Use of the System

This section is intended to describe detailed step-by-step procedures to install and configure the JEDMICS/CADA software. Basic information about how to use JEDMICS/CADA's user interface is also included.

This manual is intended for users who have a basic foundation in and understanding of computer use. The user should also have basic skills in using a Unix text editor, such as *vi* or *emacs*.

## 3.2 Installation and Setup

A system administrator should review all security, hardware, and software requirements prior to installation (refer to sections 1.5, 2.2.1, and 2.2.2). The following information should be available to answer the questions that will be asked during the installation process:

- the location of the directory where the JEDMICS/CADA software will be installed,
- the location of the directories where raster data and index information will be stored when batches are loaded and output to tape (this disk volume should have at least 100 MBs of disk space),
- the device name of the tape drive, (optional)
- the device name of the printer,
- the IP address of the JEDMICS system, and
- the account name and password for the JEDMICS/CADA account in JEDMICS, as well as the JEDMICS device name used for connection.

### 3.2.1 Installing the Software:

**STEP**

1. Insert the tape or floppy disk into the appropriate drive.
2. Use the bar command to load the cada_inst installation script.

```
bar xvf /dev/rfd0 cada_inst
```

*NOTE*

***You will need to replace /dev/rfd0 with the device name of your floppy or tape cartridge drive.***

3. At the system prompt, type cada_inst (this will start the installation script).

4. Answer the installation questions. JEDMICS/CADA will then perform the loading of the software.

5. The JEDMICS/CADA default parameters need to be changed by editing the "cada.config" file using a text editor, such as vi, or setting options using configuration screens from within JEDMICS/CADA. The installation script will instruct you to set the XVTPATH, CADA_DIR, UID_PATH, CADA_WS_XDPI, and CADA_WS_YDPI variables in your *.cshrc* (if you are using C-shell) or *.profile* (if you are using Borne shell).

*CAUTION*

***The user and/or System Administrator should understand the defaults built into JEDMICS/CADA before changing them (refer to Appendix B).***

The following directory tree is installed. Directories are listed in bold and surrounded with brackets (e.g., [**directory**]). The indentation signifies the directory hierarchy. [*] - signifies an executable file):

| Directory/Files | Description |
|---|---|
| **[$CADA_DIR]** | |
| **[bin]** | Directory where executables reside and temporary files are created |
| ansm3050.me2 | ICR engine neural network-trained memory |
| approach3.spc | ICR engine input specification for recognizing the revision block |
| approach4.spc | ICR engine input specification for recognizing revision boxes inside a revision block |
| cada* | JEDMICS/CADA executable |
| cada.config | Configuration file JEDMICS/CADA reads for initialization upon startup |
| cada.hlp | JEDMICS/CADA on-line help file |
| cada.uid | JEDMICS/CADA X-Window resource file |
| constant.spc | OCR engine input specification for recognizing the title block |
| eng001.dic | Nestor ICR dictionary |

| | |
|---|---|
| rotate 90.cfg | Scanfix configuration file for rotating an image 90 degrees. |
| rotate 180.cfg | Scanfix configuration file for rotating an image 180 degrees. |
| rotate 270.cfg | Scanfix configuration file for rotating an image 270 degrees. |
| title.cfg | Scanfix configuration file containing parameters used for the title block area |
| title_sz.dbs | A data base file that contains information on the typical title block sizes for different size drawings |
| whole.cfg | Scanfix configuration file containing parameters used for the whole image. |

**[support files]**Directory where support files needed by JEDMICS/CADA are stored.

| | |
|---|---|
| config | JEDMICS configuration file. |
| services | JEDMICS services file |
| jmx-connect.txt | JEDMICS log-in information |
| iq.config | Image Quality Thresholds |
| logo.h | JEDMICS Logo in X windows *xbm* format |
| small_logo.h | JEDMICS Logo in X windows *xbm* format |

**[data]** Directory tree where batches are temporarily loaded and data lists and evaluation reports are stored

- **[dat]**
  - dataset.master, dataset.num — Files that maintain information about the various batches that are loaded and suspended
- **[log]** — Directory where the batch logs, data lists and evaluation status reports are stored
  - **[lst]**
  - **[report]**

**[tape_output]** Directory where CALS data is temporarily stored before being output to tape.

**[demo_images]** Directory containing a sample CALS MIL-STD-1840A batch

D001
D001R001
D001R002
D001R003
D001R004

**[print]** Directory that has driver and font-related files to print reports from within JEDMICS/CADA

C-B.AFM
C-BO.AFM
C-O.AFM
C.AFM
H-B.AFM
H-BO.AFM
H-O.AFM
H.AFM
T-B.AFM
T-BI.AFM
T-I.AFM
T-R.AFM
afm.dir
xvtprolg.ps

**[docs]** Document directory that has JEDMICS/CADA manual pages and text files with last minute information

cada.readme
cada.1

**[temp-files]**

last.crit Information specific to the last JEDMICS query.

## 3.3 Initiating a Session

A user must first log-on to the JEDMICS/CADA system to gain access to his or her account. This follows standard procedures for Unix multi-user systems. At the system prompt, type your log-in ID and press <Enter>. If required, at the password prompt, type your password and press <Enter>. The password is not displayed on the monitor. If your system does not automatically start OpenWindows upon logging in, at the system prompt, type *openwin*. It is now possible to run JEDMICS/CADA. At the system prompt, change from the current directory to the $CADA_DIR directory. Type **cada** and press <Enter> to start the JEDMICS/CADA work session. Figure 2 shows an example of a typical log-in/CADA startup scenario. User input is depicted with bold text.

```
Site2 login: user1 <Enter>

Last login: Wed Nov 17 16:14:03
SunOS Release 4.1.3C {SITE} #1: Wed Nov 17 07:16:57 PST 1996
site2{user} % openwin <Enter>
```

**Figure 2. Logging In and Starting OpenWindows**

At this point, the windowing interface will startup and present the user with one or more terminal windows. Choose a window to work in by moving the mouse pointer within a window frame. To start the JEDMICS/CADA application, execute the commands shown in Figure 3.

```
site2{user1} %cd $CADA_DIR <Enter>
site2{user1} %cada <Enter>
```

**Figure 3. Changing to the JEDMICS/CADA Working Directory and Starting JEDMICS/CADA**

Upon startup, JEDMICS/CADA reads a configuration file to initialize various user settings such as data directories, evaluation parameters, etc. If JEDMICS/CADA has a problem reading the file or interpreting its contents, the application will display which line in the configuration file the error occurred and quit (Figure 4). In the event that JEDMICS/CADA did not use a default value, use a text editor such as vi or emacs to correct the problem keyword-value(s). Refer to Table 1: Valid Keywords and Values for the configuration file in Appendix B for more information.

```
Site2{user1} %cada <Enter>

        Computer Assisted JEDMICS /CADA Data Acceptance Tools v1.0

ERROR Line [9] Bad CALS Directory: /home/cada/example


CADA_DIR environment set to </home/usr1/cada/bin>
using config file </home/usr1/cada/bin/cada.config>
        JEDMICS/CADA Initialization Failed
```

**Figure 4. JEDMICS/CADA Banner Screen with Error**

If the initialization is successful, JEDMICS/CADA will display its banner screen (Figure 5) and display the main window (Figure 6).

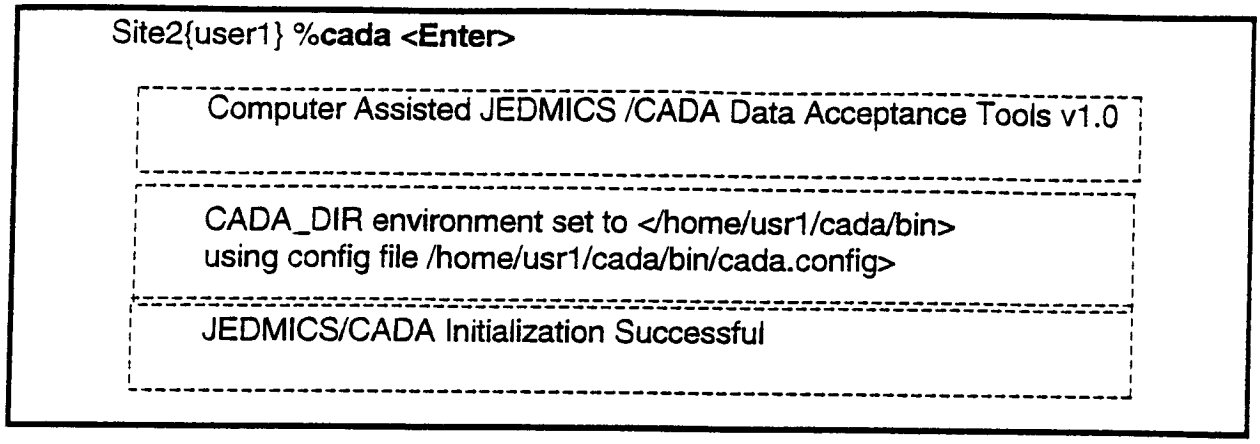



**Figure 5. JEDMICS/CADA Banner Screen with Successful Initialization**

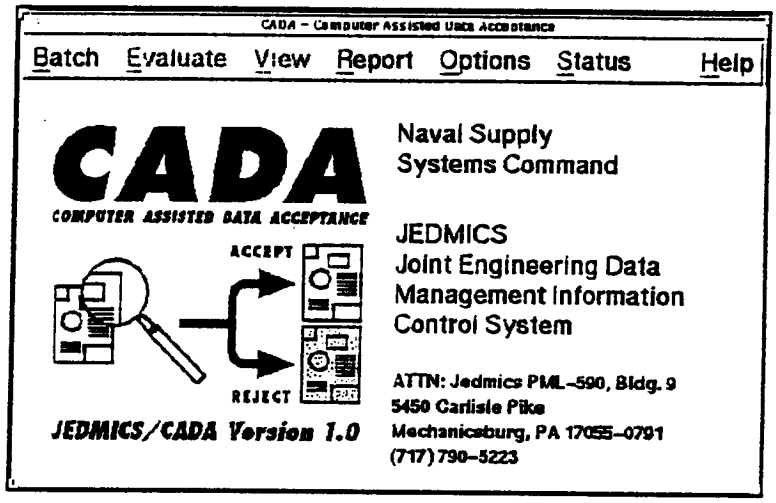



**Figure 6. JEDMICS/CADA Main Window**

*JEDMICS/CADA Default Parameters:*

Before using JEDMICS/CADA, the user should specify his or her default working environment. The JEDMICS/CADA default parameters may be changed by setting options using the Options window from within JEDMICS/CADA or editing the "cada.config" file using a text editor. These options control various aspects of JEDMICS/CADA's operation such as where data and log files are stored, automated evaluation parameters, and device locations/configurations. There are two Options windows: an Options Application window (Figure 7) that controls most aspects of JEDMICS/CADA's operation and an Options (Figure 8) window that controls the parameters of JEDMICS/CADA's automated evaluation.

A CADA Housekeeping window allows the user or system administrator to perform routines to mange temporary JEDMICS/CADA storage.

The windows can be accessed by using the Options Application or Options Evaluation commands located under the Options pull-down menu of the main window. Refer to Appendix B for a detailed description of each Option choice.

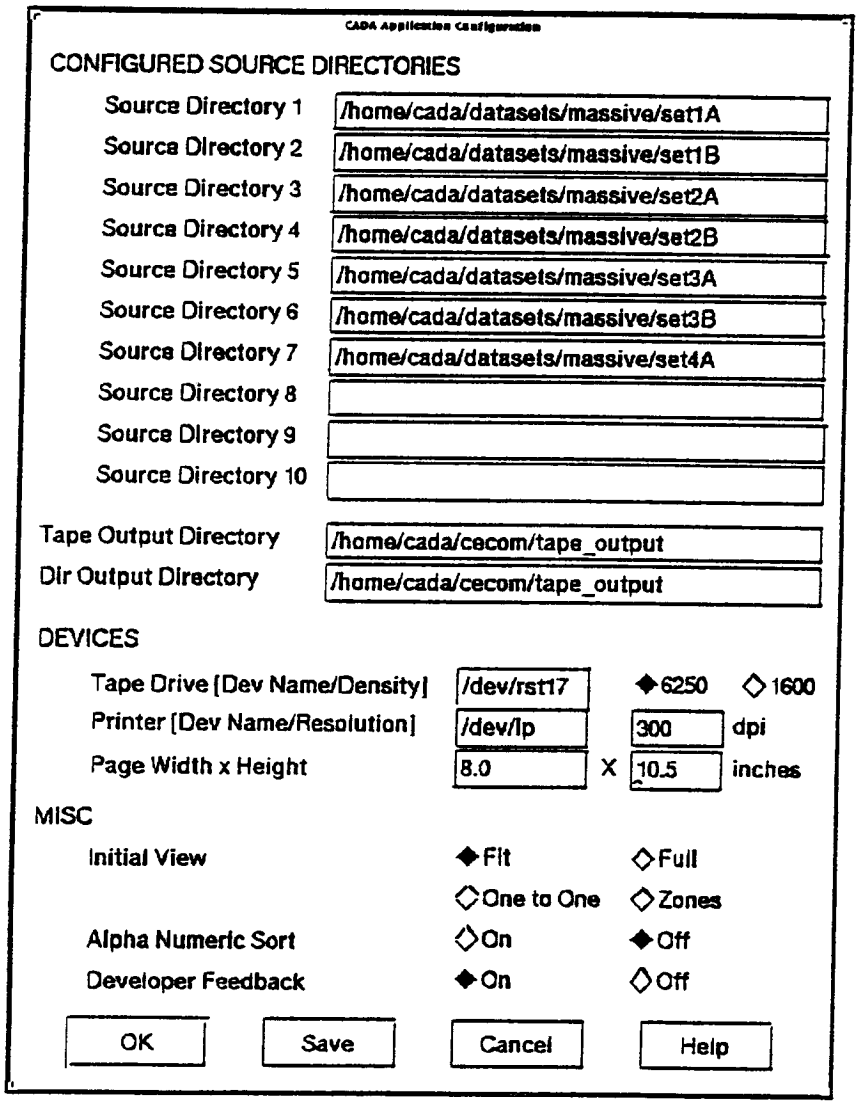



**Figure 7. Application Options Window**

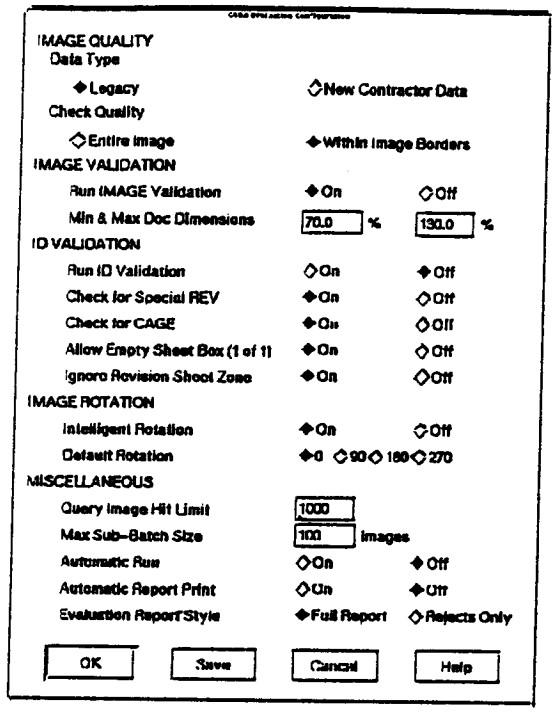



**Figure 8. Evaluation Options Window**

The user can set various options by selecting the [ON] or [OFF] radio buttons. Options that require directory paths, device names, etc. can be set by clicking the mouse pointer in the option's text edit field and typing in the desired information. By clicking [OK], the configuration options are changed and only maintained for the current JEDMICS/CADA session. If any errors are found in the users settings, JEDMICS/CADA will specify which editable text field options have incorrect information and clear the erroneous entry. No changes are set if the [Cancel] button is clicked. To save the current settings for subsequent JEDMICS/CADA sessions, click the [Save] button. JEDMICS/CADA will alert the user once it has successfully saved the settings to the configuration file.

### 3.3.1 Stopping and Suspending Work

To exit JEDMICS/CADA and log-out of the system, the following procedure is executed. Select the [Quit] command located under the Batch pull-down menu of JEDMICS/CADA's main window. This will terminate the JEDMICS/CADA session. JEDMICS/CADA will prompt the user to confirm the termination of the session before exiting. Any active batch is placed in the suspended batch pool (refer to Section 4.3.1.9). To exit from OpenWindows, click the left mouse button while the pointer is not inside a window

or icon to display the OpenWindows Workspace pop-up menu. Click on the [Exit] command to terminate the OpenWindows GUI session. OpenWindows will prompt the user to confirm the termination of the session before exiting. This action puts the user back at the character-based terminal session. At the system prompt, type exit <Enter> to log-out of the user account.

## 3.4 Equipment and User Interface Familiarization

Only the system administrator should power down the workstation. Various Unix shutdown commands need to be executed to gracefully power down the system. Users should not attempt to power down the system since critical files may be corrupted if the file system has not been synchronized prior to shutdown.

JEDMICS/CADA's user interface is based upon X windows using Motif interface guidelines. Because of this, JEDMICS/CADA can be used remotely on any X server terminal that can access the JEDMICS/CADA workstation over a network. JEDMICS/CADA works best when used on a monitor that has a 1600 X 1280 display resolution.

The JEDMICS/CADA user interface consists of windows, dialog boxes, radio buttons, check boxes, and push buttons. A mouse is used to initiate most actions, however, the keyboard can be also used for most operations. Typical mice, two button and three button, are shown in Figure 9.

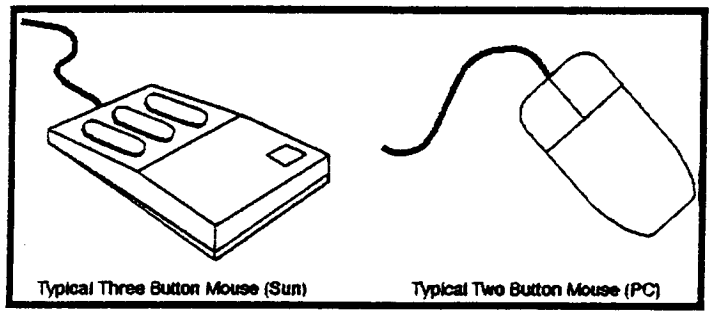



**Figure 9. Typical Mice**

The mouse can be used for several tasks in JEDMICS/CADA including:

- Selecting items from pull-down menus and lists,
- Pressing push-buttons,
- Positioning the cursor in an editable text field, and
- Zooming in on part of an image.

### 3.4.1 Mouse Characteristics:

- The Sun mouse is a three button mouse. Most of the operations described in this manual, use the left button. The middle and right buttons are used for panning and scrolling operations in the visual QA workspace.

  ***(Note the distinction between a "mouse button," which is the physical button on a mouse and a "push-button," which is the picture of a button displayed on the user's screen.)***

- Physically moving the mouse moves the pointer on the screen.

- When a mouse button is pressed and then immediately released at the same position, this action is called "clicking." It is used to perform several actions like pressing a *push-button*. Clicking a mouse button *twice* in rapid succession without moving the mouse pointer is called "double-clicking." Double-clicking is most often used to both select a list item and press the default push-button of a dialog window in one action.

- The action of pressing a mouse button and moving the mouse to a different point while keeping the button pressed is called "dragging." It is used to perform several actions like zooming in on an area of an image.

### 3.4.2 Mouse Use for Different Actions:

- To select an item from a menu bar, move the mouse pointer on the screen to the desired pull-down menu label (e.g., Batch, Evaluate, Status) and press the left mouse button. Drag the mouse to the desired command (e.g., Open). If the selected command has a secondary pull-down menu (e.g., Input/Continue Query From), an arrow to the right of the item name will be shown. Drag the mouse to the arrow to display the sub-menu. As before, drag the mouse to the desired item (e.g., JEDMICS Permanent) to invoke that command. Release the button only when the final selection is reached.

- To select an item from a list, move the mouse pointer to the desired item and click the left mouse button. Contiguous selection of list items is done by holding the <SHIFT> key down while selecting two list items. All items in between the selected items will be selected. Non-contiguous selection of list items is done by holding the <CTRL> key down while selecting list items.

- To press a push-button, move the mouse pointer to the button and click the left mouse button.

- To position the cursor in an editable text field, move the mouse pointer to that field and click the left mouse button.

- To zoom in on an area of an image, in the visual QA workspace, move the mouse pointer to the upper left corner of the desired image area and press the left mouse button. Then drag the mouse to the lower right corner of the desired image area and release the button.

### 3.4.3 Selecting Pull-Down Menus:

The JEDMICS/CADA workspaces have menu bars which contain various pull-down menus. Figure 10 shows the JEDMICS/CADA main menu bar mnemonics. Follow the steps below to select a menu item.


**Figure 10. Main Window Menu Bar Mnemonics**

STEP

1. Move the mouse pointer to a pull-down menu label on the menu bar you want to select. If an item is gray, that command is currently unavailable.

2. Click the left mouse button.

3. The menu pull-down is displayed. Select the menu item you want by moving the pointer to the item and clicking the left mouse button. As before, if an item is gray, that means it is currently unavailable. If the menu item has an arrow to its right, this indicates that this item has a sub-menu. In this case, move over to the arrow and a sub-menu list will be displayed. Select an item from this list in the same manner as before. Figure 11 shows the [Batch] menu selected and examples of [Input/Continue From] and [Output] sub-menu selection.

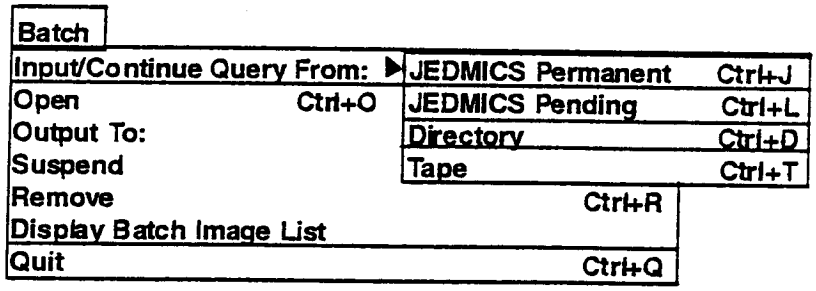



**Figure 11. Batch Menu with Load and Output To Sub-Menus**

4. A menu can be deactivated by selecting a menu item to execute a JEDMICS/CADA command, selecting a new pull-down menu, or by moving the mouse pointer outside the pull-down menu area and clicking the left mouse button.

### 3.4.4 Keyboard Equivalents:

JEDMICS/CADA provides multiple ways for users to access application commands to accomplish their tasks. For example, a command can be accessed through a pull-down menu, a mnemonic key press, or a keyboard accelerator. Certain types of mouse clicks can also accomplish various scrolling operations. Although the primary means of control and input is the mouse, using the combination of the two input devices should greatly enhance the user's productivity. Empowering users through this flexibility enables them to select the best method for accessing a command based on criteria they choose: experience level, personal preference, unique situation, or simply habit.

JEDMICS/CADA uses two types of keyboard equivalents: mnemonics and accelerators. A menu mnemonic is a single underlined character (frequently the initial character) of a pull-down menu which, when depressed in conjunction with the <ALT> key, displays the pull down menu (e.g., <ALT> + B to activate the Batch menu[1]).

When the menu is displayed, the user can navigate through the menu items by using the up and down arrow keys. At this point, the user can also cycle through the various pull-down menus by using the left and right arrow keys. Once a pull-down menu has been displayed, each menu item can also be accessed by depressing its mnemonic (the single underlined character – e.g., depressing <R> to perform the Remove command in the Batch menu). Certain menu items can also be accessed without first invoking the pull-down menu. If the menu item has a <Ctrl + character> combination, it can be accessed without menu interaction (e.g., <Ctrl + O> to open a batch).

### 3.4.5 Using Push-Buttons:

Push-buttons are used extensively throughout the JEDMICS/CADA user interface (see Figure 12.). To perform a function specified by a push-button, move the mouse pointer over the desired button and click the left mouse button. There are a number of common operations that push-buttons execute that include the following.

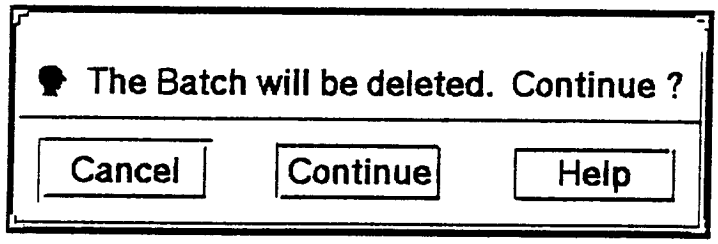



**Figure 12. Sample Dialog Window with Push-buttons**

**OK/Continue** Performs the dialog window action or simply proceeds to the next step.

**Cancel** Terminates the current operation.

[1] On some keyboards, the diamond key (◇) may be used in place of the ALT key.

*NOTE*

***Dialog windows will contain push-buttons that are specific to the function of that window.***

## 3.5 Access Control

User accounts should be obtained from the JEDMICS/CADA system administrator. Users should set a unique password for their account by issuing the *passwd* command. The user will be prompted to type a password and confirm it by typing it again. If the user has a password set already, the computer will prompt the user to enter in the old password before allowing the process to continue. The following is an example of a typical set password scenario (user input is in **bold** text).

site2{user1} % **passwd <Enter>**
Old Password: ****** **<Enter>**
New Password: ****** **<Enter>**
Retype new password: ******* **<Enter>**

Users should change their passwords on a regular basis and the passwords should not contain information that can easily be guessed (e.g., phone numbers, addresses, family names, etc.).

In order to access the JEDMICS repository, a single JEDMICS/CADA account must be obtained from the local JEDMICS system administrator. This account must have read access to Permanent and Pending (depending on which repository is required) and write access to Pending, if the user is required to re-insert evaluated images to Pending.

# SECTION 4
# PROCESSING REFERENCE GUIDE

## 4.1 Capabilities

The JEDMICS/CADA application is divided into two work areas: the main window workspace and the visual QA workspace. The main window is where the user performs general procedures such as inputting batches, printing reports, initiating automated evaluation, and outputting batches. The visual QA workspace is where the user displays individual images from a batch and can modify the view in a variety of ways. The user can review the evaluation status of the image, override the JEDMICS/CADA evaluation results, or modify the image's header information.

**The Main Window and Visual QA Workspaces:** The JEDMICS/CADA main window (Figure 13) is displayed when the software is started and successfully reads the *cada.config* file. The main window is divided into the following parts.

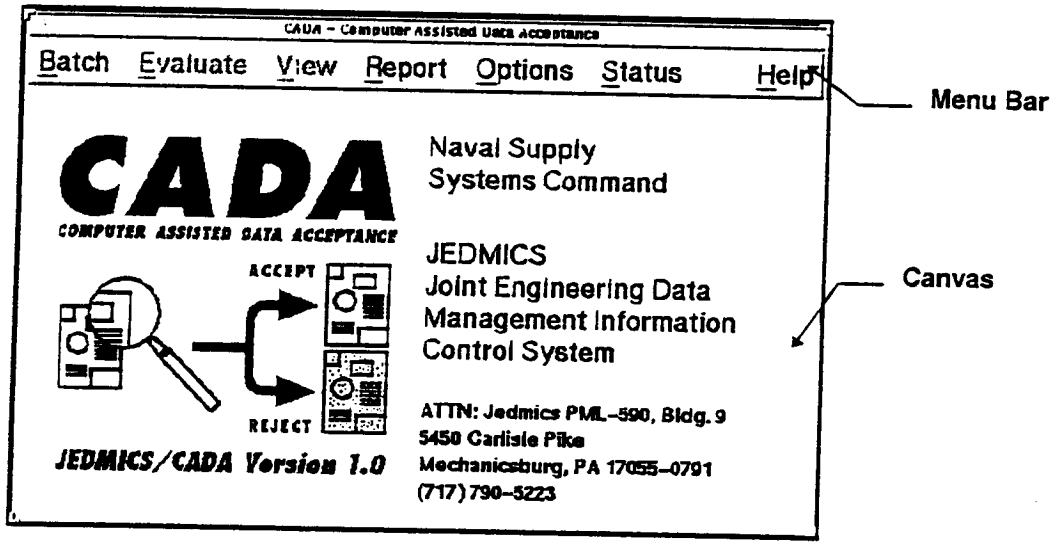



**Figure 13. JEDMICS/CADA Main Window**

**Menu Bar:** Contains pull-down menus to access the main JEDMICS/CADA commands. The commands are described in later sections.

**Canvas:** Displays the JEDMICS/CADA startup window. During Input, Output, and Evaluation, the canvas displays the progress and status of the session.

The JEDMICS/CADA visual QA workspace is displayed when any of the View (from the

JEDMICS/CADA main menu bar) pull-down menu commands are selected (Figure 14). The visual QA workspace is divided into the following parts.

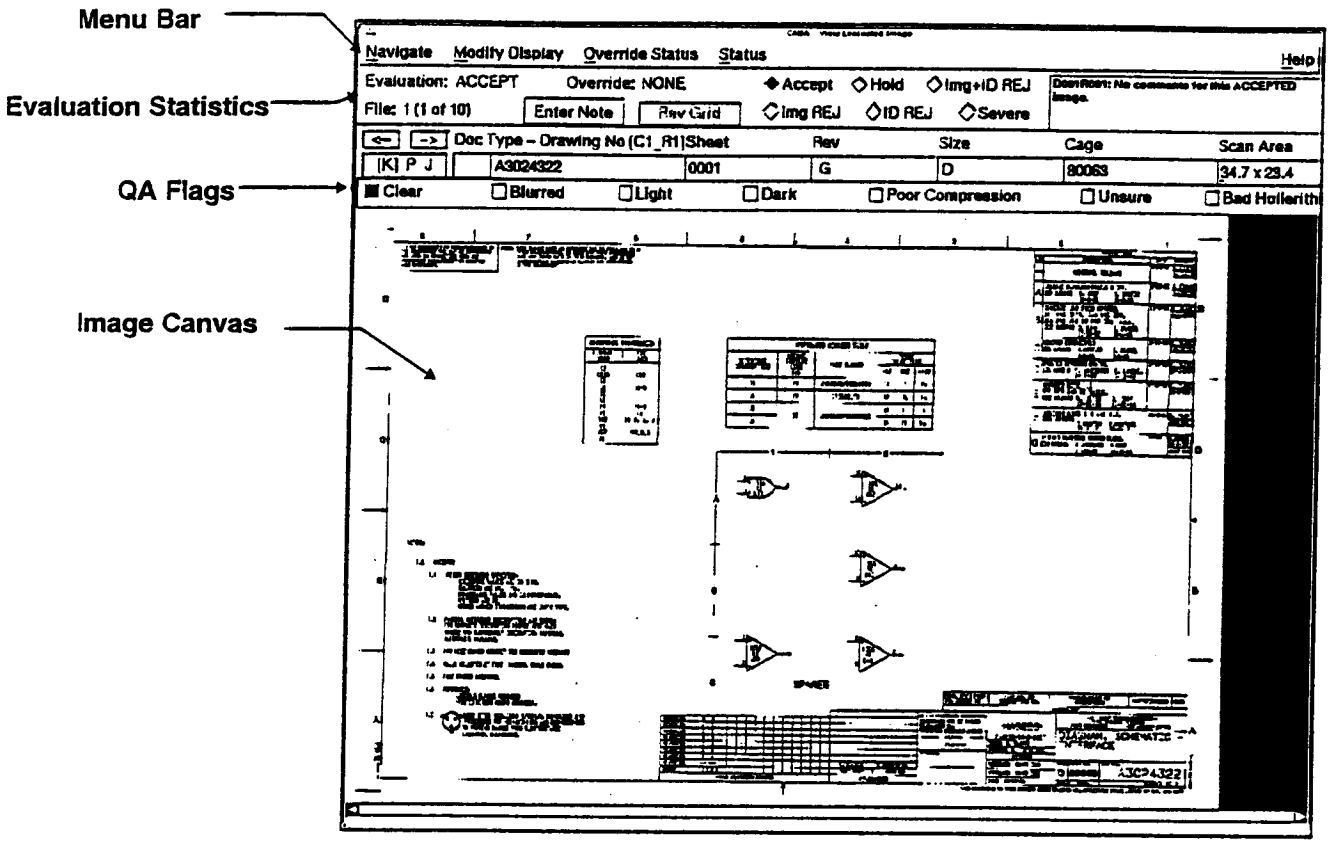



**Figure 14. Visual QA Workspace**

**Menu Bar:** Contains pull-down menus to access the view commands. The commands are described in later sections.

**Evaluation Status Information:** Displays the information about the current image being viewed, which consists of the image number in the batch, evaluation status, override status, override radio buttons, and rejection reason or comment.

**Header Information:** Displays the header ID, product data information (drawing number, sheet number, weapons system code, rights, etc.), and specific JEDMICS fields in editable text fields. If the ID data in the image is found to be inconsistent with the displayed header data, the user can correct the header ID information for the image by typing in the correct data.

**Image Canvas:** Displays the image currently being reviewed. This window has scroll bars to allow for panning around the contents of the image.

**Using On-line Help:** JEDMICS/CADA allows the user to view on-line help by selecting Help from the menu bars of the main and visual QA windows or by pressing the [Help] push-button in various dialog windows. The Help Topics dialog window (Figure 15) is displayed when help is first selected.

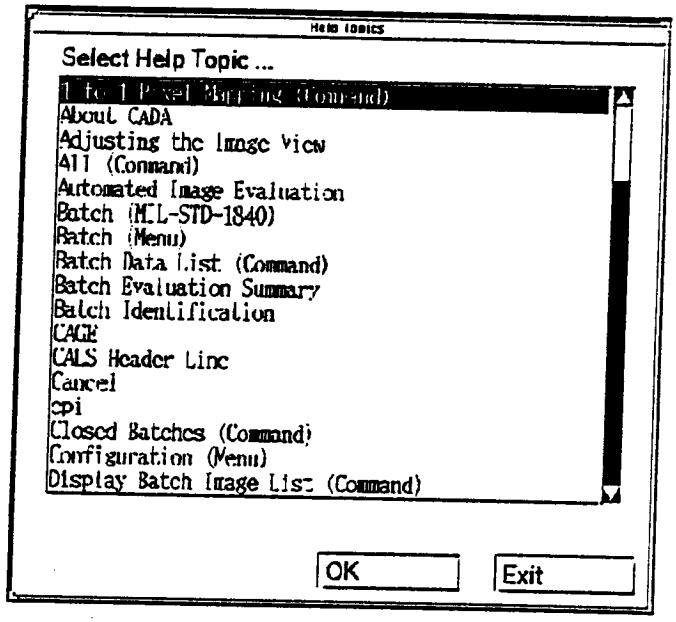



**Figure 15. Help Topics Window**

A scrollable list allows the user to choose one of the many available help topics to view the help information. The user can scroll through the list of topics by using the vertical scroll bar on the right of the topic list. To display information on a desired topic, select the topic and then click [OK]. Once [OK] is clicked, a window with the information about the selected topic is displayed. For example, if the user selected the topic Batch Evaluation Summary, the window in Figure 16 is displayed.

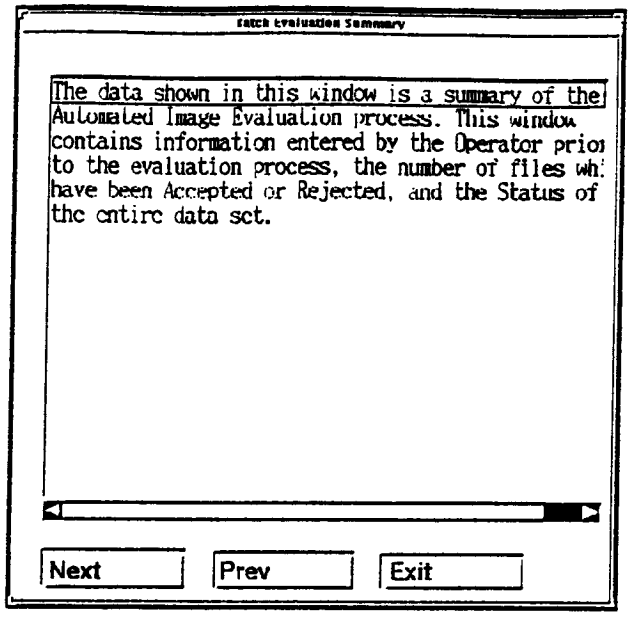



**Figure 16. Batch Evaluation Summary**

If the entire help information is not visible in the window, the user can use the vertical scroll bar to scroll through additional text. After viewing the information, the user has the following three choices:

- click [Cancel] to go back to the Help Topics window,
- click [Next] to view the next topic, or
- click [Prev] to view the previous topic.

To terminate the help session, click [Exit] in the Help Topics window.

**Using the JEDMICS/CADA Menus:** At the top of the main window (Figure 17) is the application name, "CADA - Computer-Assisted Data Acceptance." The menu bar on the line below lists the pull-down menus that the user will choose from while using CADA.

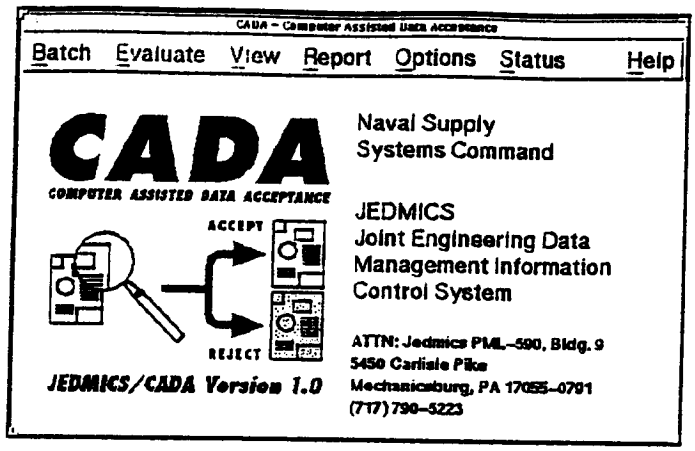



**Figure 17. JEDMICS/CADA Main Window**

To see the pull-down menus, select any menu bar item with the mouse pointer and click using the left mouse button. If the mouse button is released, the pull-down menu remains on the screen. The commands in the pull-down menu can be selected in the same manner. Some commands may have pull-down sub-menus of their own.

The following is an overview of the pull-down menus in the menu bar. All commands will be covered in detail later in the manual.

**Main Window Menu Bar:** The main window menu bar is where the user accesses commands to perform general procedures such as Inputting.

**Batch:** This menu accesses the following sub-menus and commands.

**Input/Continue Query From>**

*JEDMICS Permanent*: Initiates or continues a query against Permanent storage.

*JEDMICS Pending*: Initiates or continues a query against Pending storage.

*Directory*: Will input CALS images from a local directory.

*Tape*: Will input CALS images from a 9-track tape.

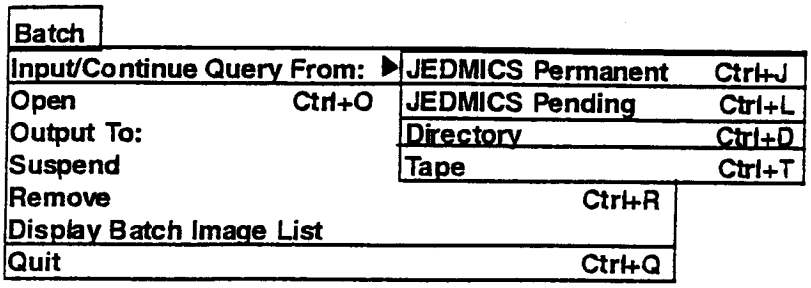



**Figure 18. Batch**

**Open** — Activates a batch from the batch pool that has previously suspended

**Output To>**

*JEDMICS Pending*: Allows an evaluated batch input from Pending to be output as a new batch to Pending.

*Directory*: Allows an 1840A input batch to be output to directory.

*Tape*: Allows an 1840A input Batch to be output to tape.

**Suspend** — Deactivates an active batch and places it in the batch pool for later use.

**Remove** — Generates a final Evaluation Status Report and deletes the batch from the batch pool.

**Display Batch Image List** — Displays the image list of the active batch.

**Quit** — Exit from the JEDMICS/CADA system

**Evaluate:** The **Evaluate** menu only accesses one command: **Evaluate Active Batch**. Evaluate Active Batch starts the automated JEDMICS/CADA evaluation process.


**Figure 19. Evaluate**

**View:** This menu accesses the following commands: **All, Sort By..., Resume,** and **From Batch Image List.** The view command first sorts what images are to be viewed based upon a user defined criteria and then invokes the visual QA module. While viewing an image, the operator may override the JEDMICS/CADA evaluation results and change the header information related to that image.

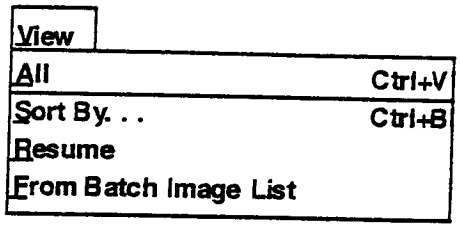



**Figure 20. View**

**Report:** This menu accesses the batch report commands. The user has a choice of printing or viewing the reports. The available reports are **Evaluation Status, Integrity, Batch Data List, Pending Status Report,** and **Closed Batch Report. Closed Batches** allow the user to print or display reports generated from batches which have been previously unloaded from the batch pool.

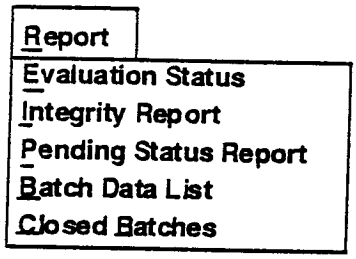



**Figure 21. Report**

**Options:** This menu accesses options which the user can change for the application and the evaluation. Also available is a sub-menu for performing housekeeping.

**Application:** This command displays an application options screen with edit fields and radio buttons that control various application-specific attributes of operation. Enter the values desired in the various edit fields and select the desired radio button options. (see Figure 11)

**Evaluation:** This command displays an evaluation options screen with edit fields and radio buttons that control the attributes of JEDMICS/CADA'S automated evaluation. Enter the values desired in the various edit fields and select the desired radio

options. When performing an evaluation, JEDMICS/CADA uses whatever were last entered in this configuration screen.

**CADA Housekeeping:** This sub-menu allows a user to perform removal of temporary tiles and directories generated when accessing JEDMICS. The options are: Reset Query Report Names, Remove Feed Back Files, Remove Report Files, Reset Datasets.

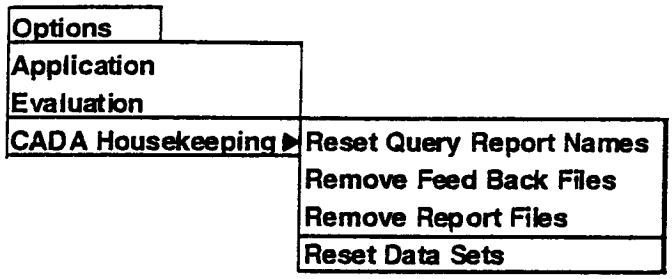



**Figure 22. Options**

*NOTE*

***The following Question Boxes will appear to confirm that the user does want to perform a CADA Housekeeping Routine before execution. Housekeeping Routines are defined in Appendix A.***

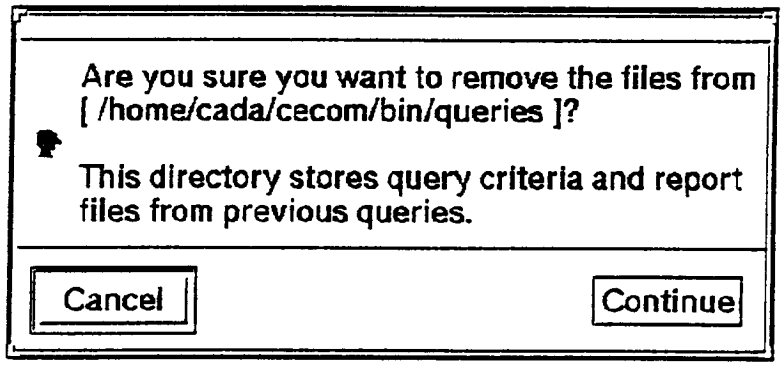



**Figure 23. Verify Remove Query Criteria**

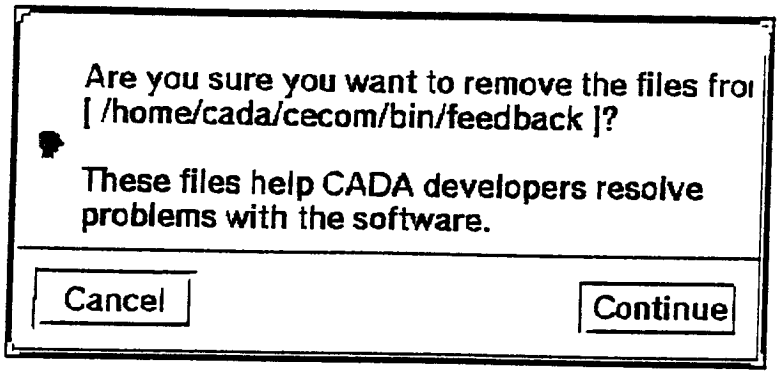



**Figure 24. Verify Remove Feed Back Files**

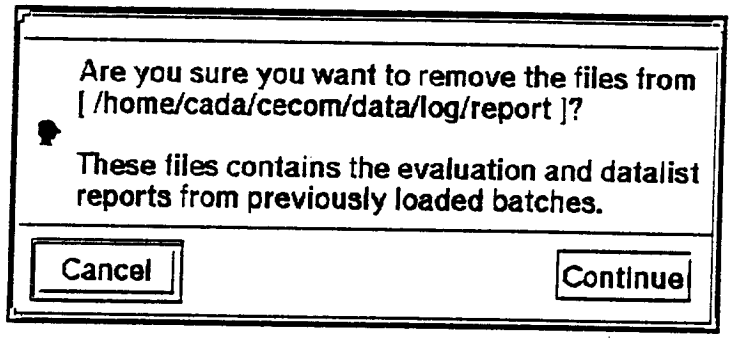



**Figure 25. Verify Remove Evaluation and Data List Reports**

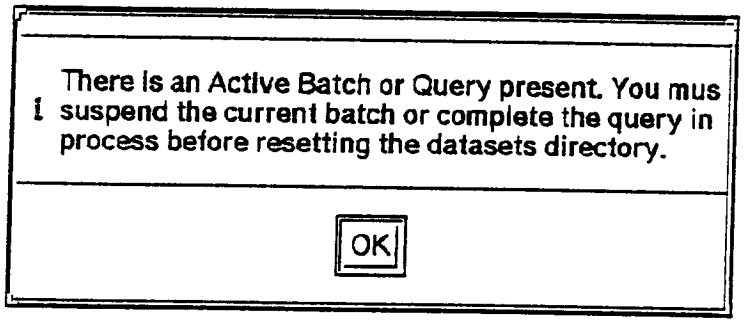



**Figure 26. Verify Reset Datasets**

**Status:** The Status menu only accesses one command: **Show Status Window**. This command displays the JEDMICS/CADA Status window.

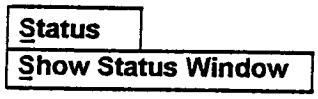



**Figure 27. Status**

**Help:** This menu displays the on-line **Help Topics.**

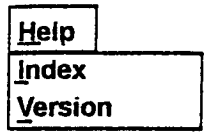



**Figure 28. Help**

**Visual QA Menu Bar:** The visual QA workspace (see Figure 14) is where the user displays individual images from a batch and can modify the view in a variety of ways. The user can review the evaluation status of the image, override the JEDMICS/CADA evaluation results, or modify the image's header ID information.

**Navigate:** This menu allows the user to navigate through a number of specified images and terminate the visual QA session. The print commands allows the user to produce a hard copy version of the image currently being viewed.

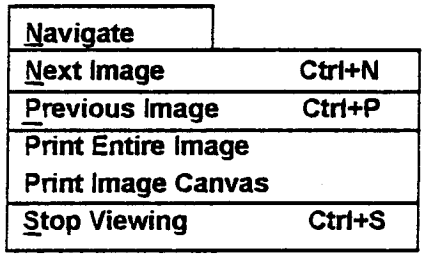



**Figure 29. Navigate**

**Modify Display:** This menu controls how images are displayed on the screen.

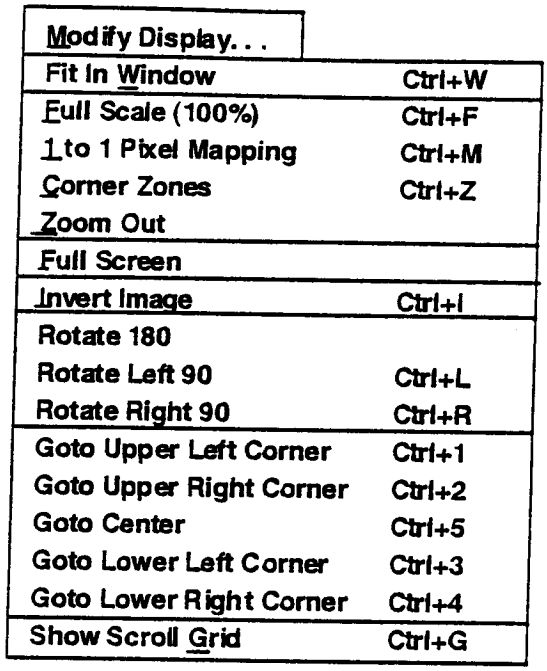



**Figure 30. Modify Display**

**Override Status:** This menu is used to revert to original header information, rotate the image or to enter information about an image for inclusion in an evaluation status report.

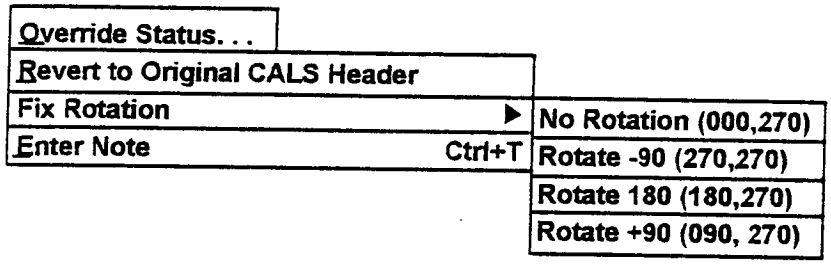



**Figure 31. Override Status**

**Status:** This menu item displays the **Current Status** window for an active batch.


**Figure 32. Status**

## 4.2 Conventions

CADA uses audible beeps to alert the user to errors or completed operations. The audible alarm will always have a error or message dialog appear to describe the current situation.

At various points during CADA's operation the user will be prompted to enter information. For example, at the Batch Declaration Window, the user is required to enter information about a loaded batch of data which will identify that batch when working with it at a later time. The conventions used to enter information into JEDMICS/CADA are described in the processing procedures sections.

## 4.3 Processing Procedures

The JEDMICS/CADA System, refer to Figure 1, can query either the JEDMICS Pending or JEDMICS Permanent storage to download index and raster image data. JEDMICS/CADA can then perform Image Quality, Image Validation, Index Verification (Key ID only), Operator Visual QA and Report Generation. If the data was input from Pending, the evaluated data can be output to Pending with JEDMICS/CADA results mapped to their JEDMICS equivalents. This output will consist of the index data and raster images. Hardcopy reports can be output through a PostScript Printer.

### 4.3.1 Input Data Formats

- CALS Type 1/2 Untiled from tape or configured source directory
- JEDMICS Raster (C4, TIFF)

CADA will validate that downloaded images conform to a raster data format and check Group 4 compression encoding. The results are contained in the Conversion and Integrity Reports

### 4.3.2 General Batch Flow

JEDMICS/CADA is designed to operate on one batch at a time. Figure 33 depicts the JEDMICS/CADA "Batch Flow" process. A batch has to be "loaded" via the Input command. Once a batch is loaded, it becomes the active batch and remains so until it is "suspended or "unloaded."

***NOTE***

***When Automatic Run and Automatic Print are chosen from the Evaluation Options window, JEDMICS/CADA processes a submitted query without user intervention. The query is processed in sub batches (input -> evaluate -> remove) and viewing of images is disabled. To view downloaded data auto-report run features must be turned off.***

The main operations that are performed on an active batch are Evaluate, View, Generate Report, and Output. These operations can be performed in almost any order. The exception to this rule is that a batch must be evaluated before any subset of the batch can be output. Some functions may also not be available if an evaluation is not performed (e.g., the Rev-Sheet grid in the visual QA workspace can not be displayed without an evaluation). A batch can be suspended to allow the user to work on another batch. The user can

resume work on a suspended batch by "opening" one of the previously suspended batches via the Open command. When all the work on a batch is completed, it can be deleted via the Remove command.

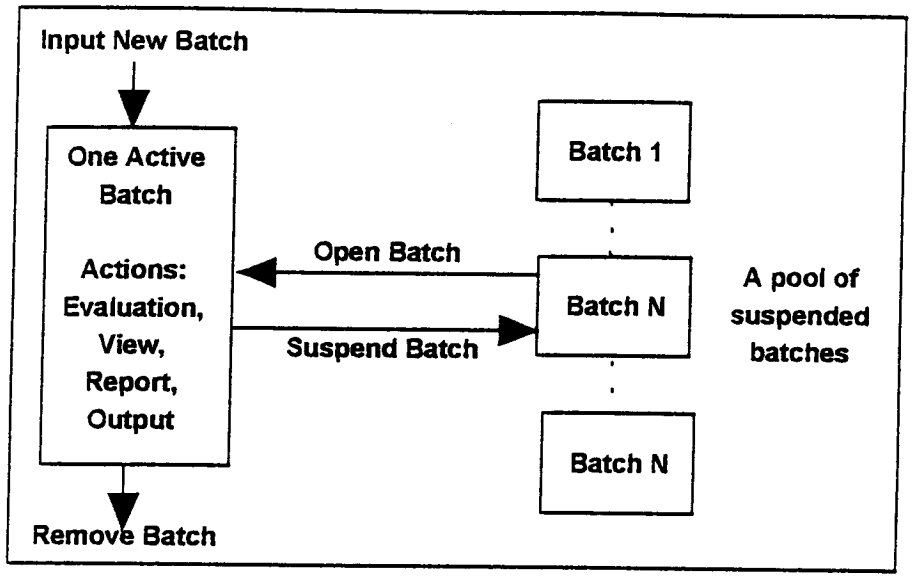



**Figure 33. Batch Flow**

### 4.3.3 Stepping Through JEDMICS/CADA Procedures:

A typical sequence of events that the user performs to run JEDMICS/CADA is listed below. The JEDMICS/CADA status window guides the user through these steps by suggesting a "Next Recommended Action" during various stages of operation.

STEP

1. **Input a new batch, Open a batch from a provided list of suspended batches or enter Queries.** This batch is now the active batch. All the subsequent commands performed will operate on this batch until this batch is either suspended or removed.

2. **Modify Application/Evaluation Options.** The user can specify under what parameters a batch will be evaluated. These parameters will partially dictate how long a batch will take to be evaluated. Some examples of these parameters are: Image Quality, Data Types, ID Validation, and Automatic Run (see Figure 8).

3. **Evaluate the active batch.** During this procedure, image quality is evaluated for reproducibility and the Key ID information is checked (if specified by the user) for accuracy for each image in the batch.

4. **View the active batch.** The user can view all or some of the images in an active batch. During visual QA, the image evaluation status is displayed and Key/Prod/JEDMICS ID information can be toggled to view data associated with the displayed image. The user may

override or modify the JEDMICS/CADA Quality Analysis status, change the information in the header, enter a note or print an image.

5. **Generate a Report regarding the active batch.** The user can display or print an Evaluation Status Report, Batch Data List, or Integrity reports.

6. **Output the active batch.** If the batch was originally input from JEDMICS Pending, it can be output to JEDMICS pending. A new batch ID will be assigned and the entire batch will be inserted in Pending. If the original batch was input from a 9-track tape or directory, the batch or a subset may be output to 9-track tape or a mounted directory. The subset may consist of only the accepted or rejected images.

7. **Remove or Suspend the active batch.** The removed batch is completely deleted from the batch pool. It must be input again to perform any subsequent operations. A suspended batch is kept in the pool of suspended batches and can be opened again to resume work.

### 4.3.4 Input from JEDMICS Permanent

STEP

1. To initiate the JEDMICS Permanent query, select the command Batch (Figure 34) from the Main Window command bar and then choose the sub-command:

Input/Continue Query/ > JEDMICS Permanent from the drop down menu.

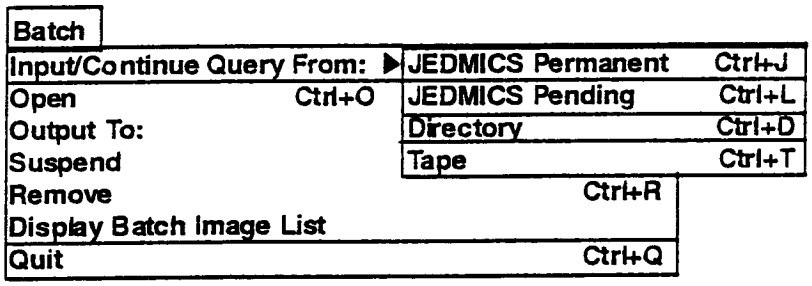



**Figure 34. Batch Menu with Input/Continue Query and Output to Sub-Menus**

2. The JEDMICS Query Criteria screen (Figure 35) is displayed. The user must enter a unique name to denote the Query. This query name must be unique, because JEDMICS/CADA stores the old queries and their results in a sub-directory of the execution directory called [queries]. This user supplied name is only used internally by JEDMICS/CADA for tracking purposes. It is important to check your disk space before continuing, since JEDMICS/CADA required approximately twice the size of the input data to successfully store and evaluate the batch. Available disk space (Figure 36) will display.

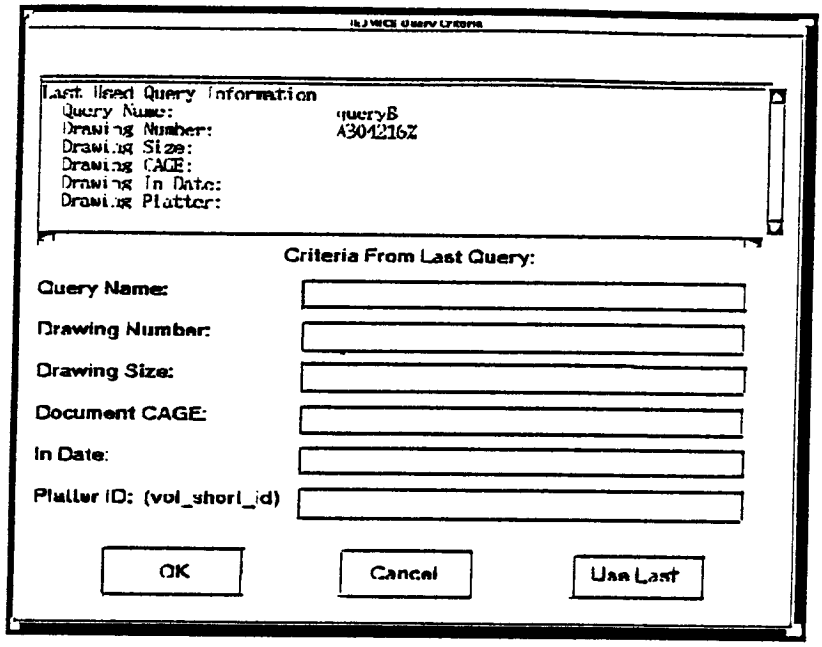



**Figure 35. The JEDMICS Permanent Query Criteria Screen**

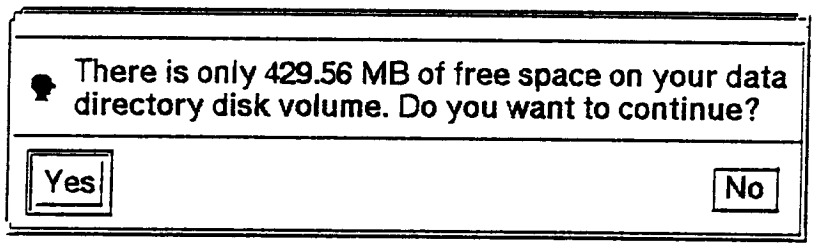



**Figure 36. Directory Disk Space**

3. Selecting Use last will populate the JEDMICS Query with the criteria used for the last executed Query. (**Remember to modify the Query Name to ensure it is unique.**) An error message (Figure 37) will display if the query name is not unique.

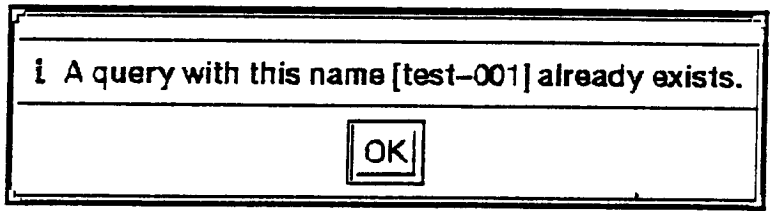



**Figure 37. Existing Name Query Dialog**

1. **Sub batches:** Each query is divided into sub- batches for efficient processing. The size of the Query Image Hit limit and the Max Sub-Batch Size can be configured on the JEDMICS/CADA Options Evaluation screen. A

drawing may be composed of several images, each one counted separately in the MAX_SUB_BATCH Size for which the limit is 1000. The default for the Query Image Hit Limit is 500.

If the query is paused or stopped the user may elect to finish the query. Figure 38 will appear to affirm this decision.

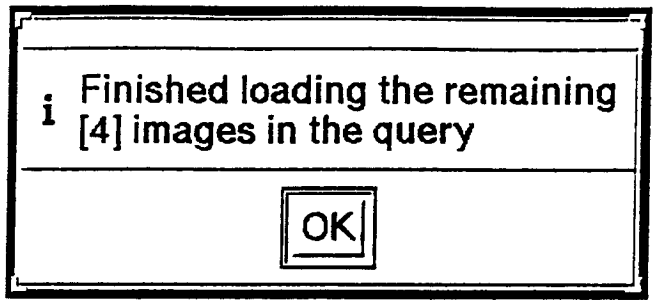



**Figure 38. Finish loading the query?**

4. The user may fill out the remainder of the entries: Drawing Number, Drawing Size, Document Type, Drawing CAGE, In Date and Platter ID. Any combination of entries may be used to specify the query. There are two wild cards that may be used. These are a percent sign [ % ] for 0 or more characters and an underscore [ _ ] for one character. They must be used in the trailing position of the entered string (e.g.,. A302% not %302). They may not be used in a leading position.

   *Example 1.* By entering A301303_ in the Drawing Number field, all files from A3013030 to A3013039 will be retrieved in the batch query. An _ sign may be used as a wild card for one character.

   *Example 2.* The underscore may also be used as a multiple wild card. By entering A30139_ _ (two underscores), the query will retrieve all drawings with the drawing number A3013900 to A3013099.

   *Example 3.* The percent sign will match the string and retrieve any drawing with a number that matches the string no matter what is after the string. By entering A3013 % the query will retrieve all drawings with A3013... and anything after that string in the drawing number.

The other fields Drawing Size, Document type, Drawing CAGE may all use wild cards also. The In Date field must be entered with the following format: In Date : Two digit day, Three letter month, Two digit year, Two digit hour, Two digit minute and two digit second.

*Example 4.* In Date all on one line. 08:aug:96:10:15:45

The Platter Id [vol_short_id] must be the three digit number for the desired JEDMICS Permanent plates. This should be obtained from the JEDMICS system administrator.

When the JEDMICS Query Criteria screen is completed, the user may submit the query by selecting the push button OK. If the entries are incomplete an error message will appear. Selecting Cancel will return the user to the Main Window.

If no query criteria, other than the Query Name is entered, the message in Figure 39 will appear.

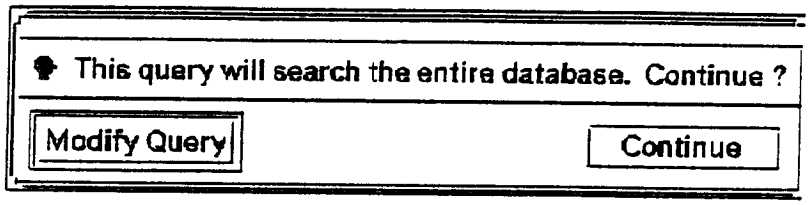



**Figure 39. Entire Database Query Search**

If there is an outstanding Query, Figure 40 will appear and the user will choose from the options of canceling the proposed Query, continuing the old Query or starting the old query over again.

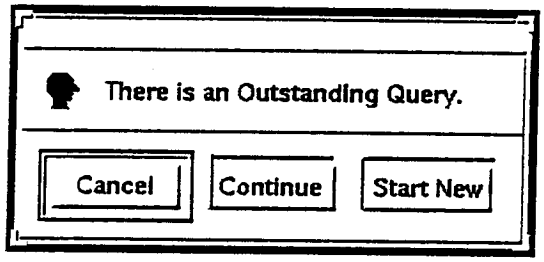



**Figure 40. JEDMICS Permanent Outstanding Query**

After Query submission, the index of the JEDMICS repository will be queried. On the Main screen the user will see that a connection is being established (Figure 41).

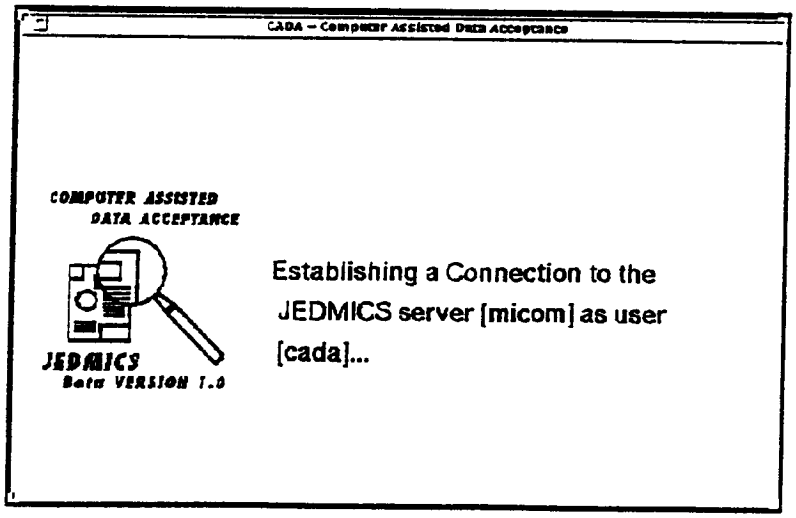



**Figure 41. Establishing a Connection to a Repository**

After a successful connection, another screen (Figure 42) will appear giving the status of the raster data and index information input.

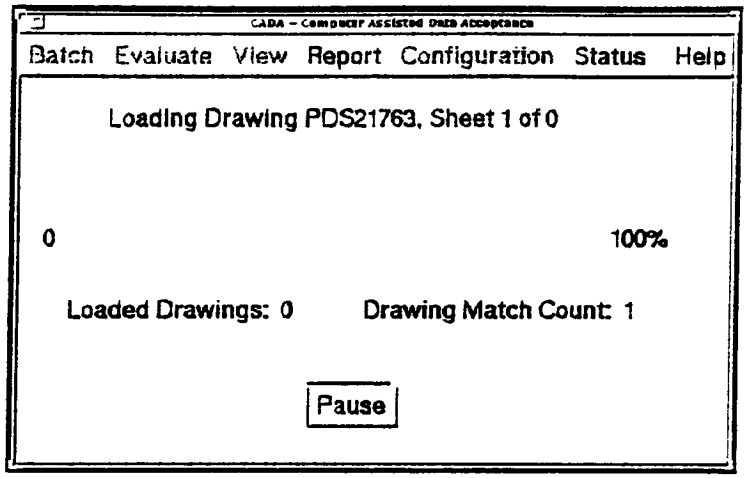



**Figure 42. Query Progress Screen**

### 4.3.5 Input from JEDMICS Pending

**STEP**

1. To initiate this JEDMICS query, select the command Batch from the Main Window command bar and then choose the sub-command.

Input/Continue Query/ > JEDMICS Pending from the drop down menu.

2. The JEDMICS Pending Query Criteria screen (Figure 43) is displayed. The user must enter a unique name to denote the Query and must enter a Pending Batch ID. The Pending Batch ID number should be obtained from the JEDMICS system administrator

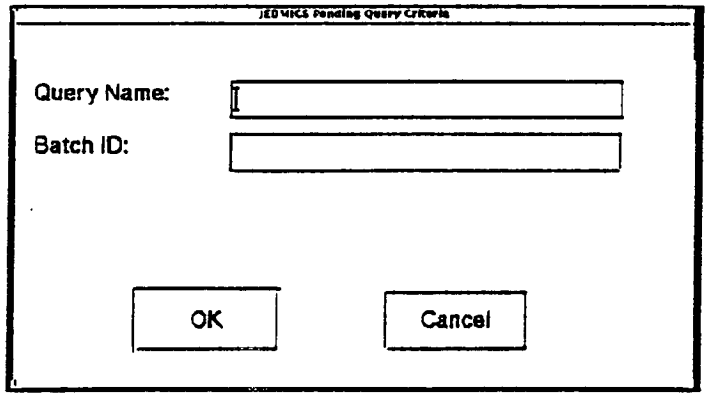



**Figure 43. The JEDMICS Pending Query Screen**

3. When the JEDMICS Query Criteria screen is completed, the user may submit the query by selecting the push button OK. Selecting Cancel will return the user to the Main Window. After Query submission, the index of the JEDMICS repository will be queried. Information will be shown on the JEDMICS/CADA Main Screen.

4. Upon completion of a pending query, Upload to Pending is available if a batch has been evaluated.

### 4.3.6 Input from a Tape

To load a new batch from a tape, choose Batch from the menu bar at the top of the main window. Next, Click on [Input/Continue Query]. Click on the [Tape] sub-menu command to display the Batch Input/Output Dialog Window (Figure 44). Enter the number of tapes in the batch by clicking the pointer in the editable text field and typing the desired number. A selection can also be made from a list of numbers by clicking on the arrow to display a scroll box. Scroll through the list and then click on the desired number to place the number in the editable text field. Select the Tape Density which will be either 1600 cpi or 6250 cpi. Select [OK] to start loading the batch. The data on the tape must conform to MIL-STD-1840A.

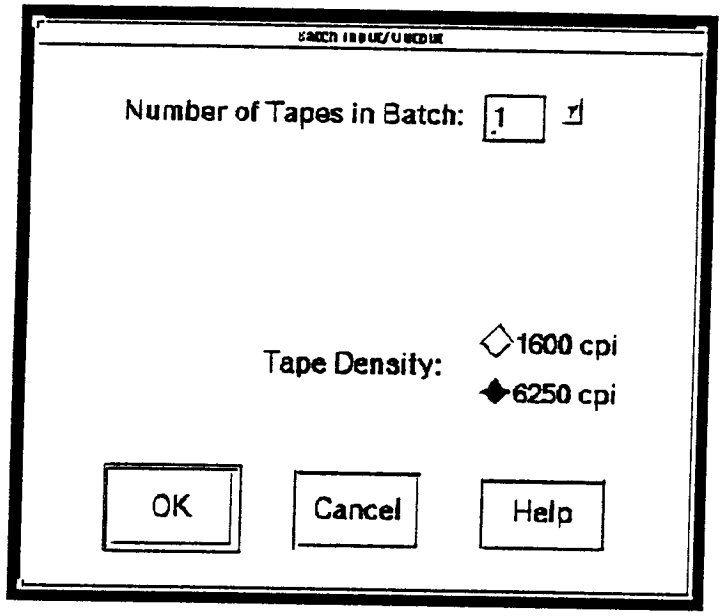



**Figure 44. Load New Batch from Tape Window**

The Input Tape Progress window will display during the Input operation and will indicate the number of tapes being loaded. The user can continue or cancel the input operation after each tape is successfully loaded.

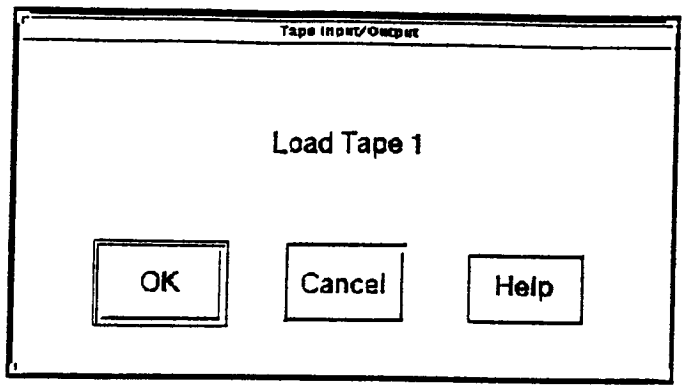



**Figure 45. Load Tape**

If an error or warning occurs while a tape is being loaded, the Load Errors Window will display. Click on [Show Log] or on [OK] to proceed without looking at the log, or Click on [Cancel] to unload the batch.

### 4.3.7 Input from a Directory

To input a batch from a directory on a locally or remotely mounted hard drive, select [Input] from the Batch pull-down menu and click on the [Directory] sub-menu command. Select a directory from the displayed Select Source Directory window (Figure 46). The list of directories shown in this window are specified in the Options Application window (refer to Section 3.2). The data in the directory must conform to MIL-STD-1840A. If a directory is not selected an error message box will appear (Figure 47). Select a directory by clicking on directory name of choice .

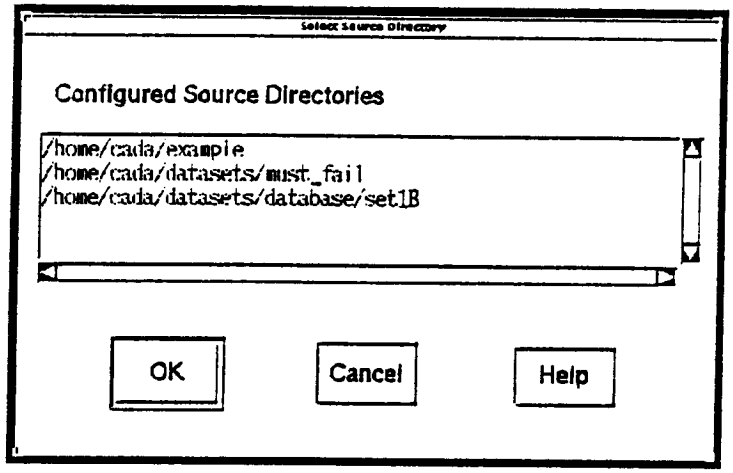



**Figure 46. Load New Batch from Directory Window**

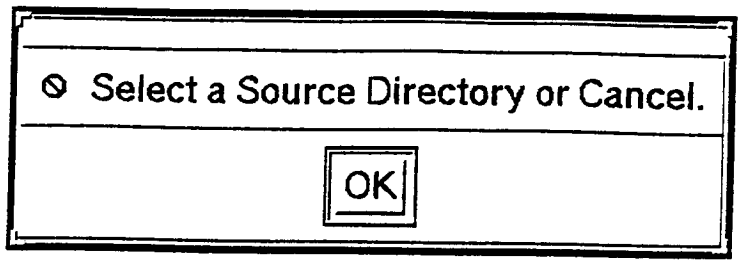



**Figure 47. A Source directory must be selected.**

*NOTE*

***A source directory must contain the necessary CALS declaration headers and raster files. Refer to Appendix C to configure a directory with CALS data.***

**Warning/Error Log:** Once a batch has been loaded from either a tape or directory, the user will be notified if there were any errors or warning encountered during the load operation (Figure 48). Click on [Show Log] to display the log file (Figure 49).

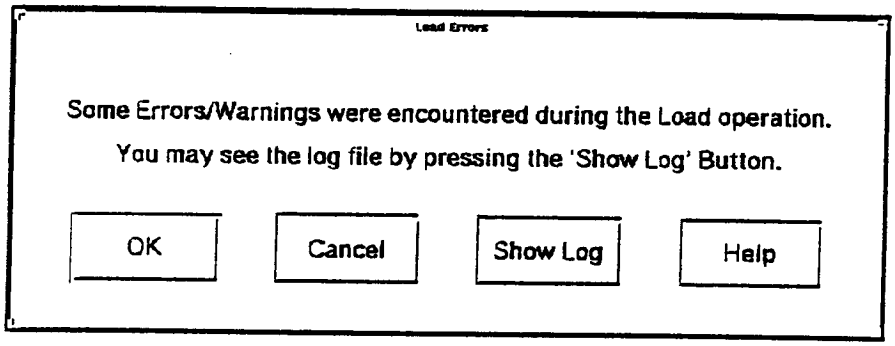



**Figure 48. Load Errors Dialog Window**

The log file will indicate which errors occurred during the loading procedure and in some cases, in which files the errors were found. Most of the text in the file will contain non-fatal warnings. Click on [OK] to continue. Clicking on [Cancel] at this point will terminate the loading procedure and remove the batch.

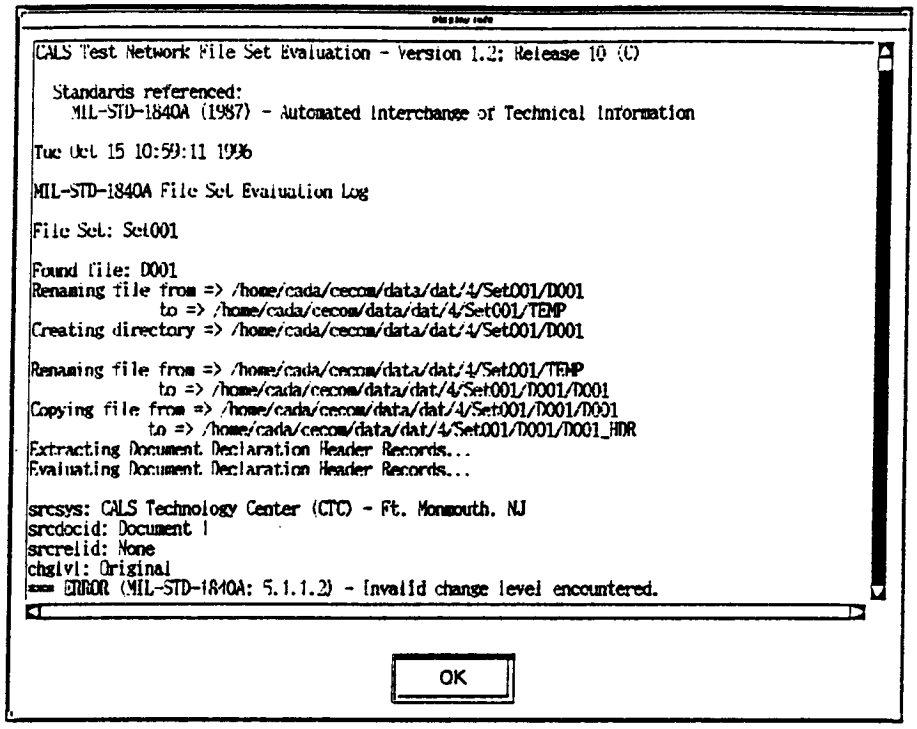



**Figure 49. Load Errors Log Information Window**

**Batch Declaration:** After a batch is input, a Batch Identification Dialog Window will be displayed (Figure 50). The Declaration File Summary data is displayed in the scrollable text list at the top of the window. This text (Contractors name and address, Source Document ID, and Related Document ID) should match the information the contractor sent with the batch. If the information does not match, click [Cancel] to remove the batch.

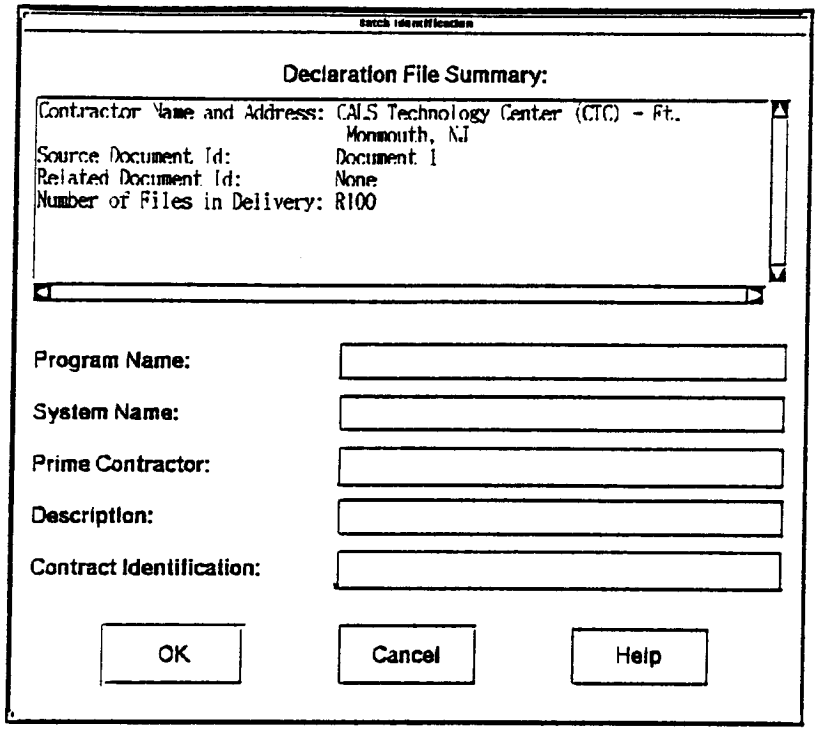



**Figure 50. Batch Identification Dialog Window with Sample Data**

The editable text fields in the lower portion of the window are for entering departmental information. This information should be used for internal tracking of contractor data. The five fields are as follows:

- Program Name (such as DSREDS, JEDMICS, EDCARS, DLA, etc.);
- System Name (such as Blackhawk, Patriot, Titan, etc.);
- Prime Contractor (from packing slip or work order);
- Description (a free form field for any information the operator needs to describe the batch); and
- Contract Identification (enter the contract number from packing slip or work order).

The user is required to enter information in each field before continuing. Select [OK] to accept the data as entered; terminate the load and remove the batch select [Cancel]. Press <TAB> to advance through the fields and <SHIFT+TAB> to move backward through the fields. You can also click in a text edit field with the left mouse button and type the desired information.

The Load Batch Summary window (Figure 51) displays the drawing ID obtained from the CALS header ID for each image. Drawing identification header data consists of the image's number within the batch, Document Type and Drawing Number, Revision Letter, Drawing Size, Sheet Number, and CAGE code.

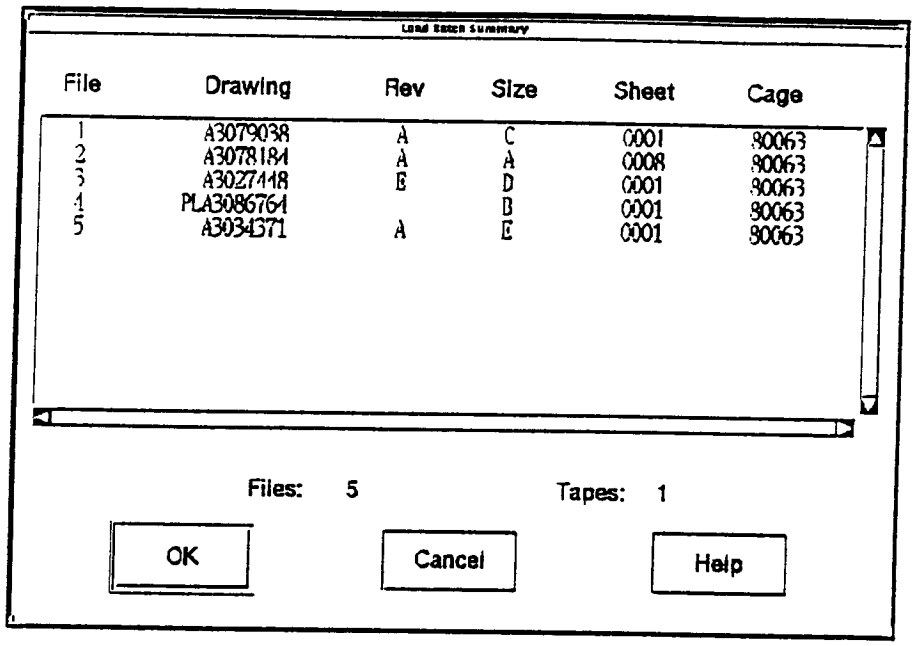



**Figure 51. Load Batch Summary Dialog Window**

This information should be checked against the packing slip or work order; if the data is not correct, click [Cancel] to terminate the load operation and remove the batch. If all the information is correct, proceed by clicking [OK]. After successfully loading a batch, the JEDMICS/CADA Status window (Figure 52) will be displayed.

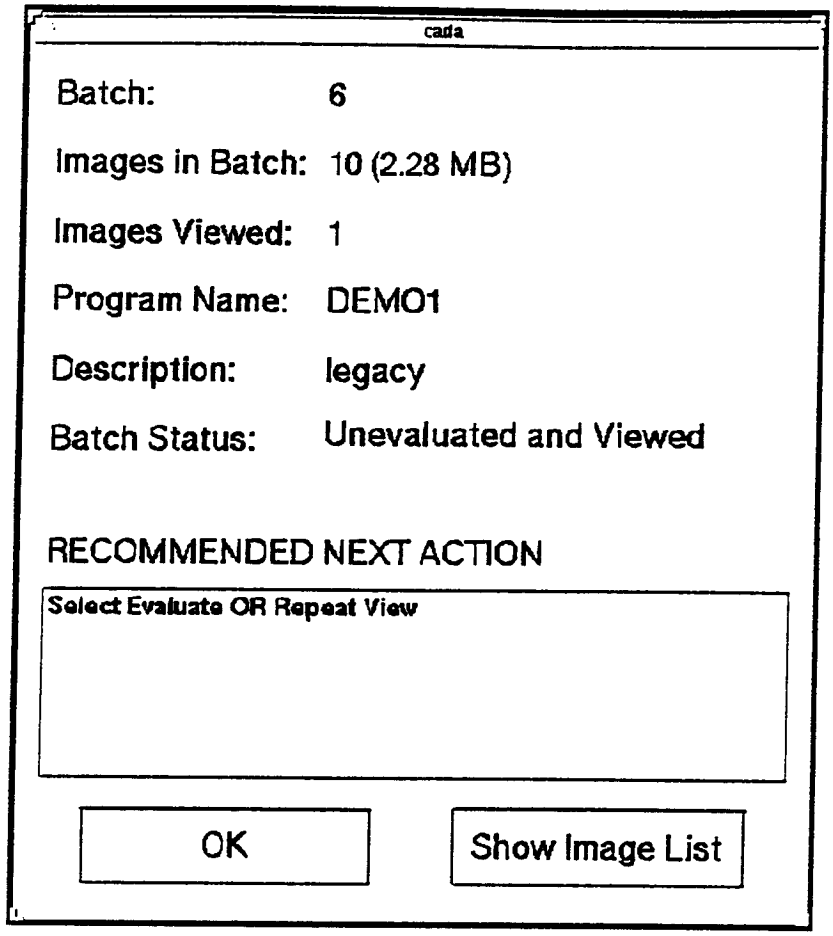



**Figure 52. JEDMICS/CADA Status Window**

This window lists the JEDMICS/CADA assigned Batch number, number of images in the batch, and the batch's size in MBs, number of images viewed in the batch, Contract ID, Description, and batch status. The next action is recommended at the bottom of the window. Click on [Show Image List] to display the list of images (Figure 53) the batch. This is equivalent to using the Display Batch Image List command from the Batch pull-down menu.

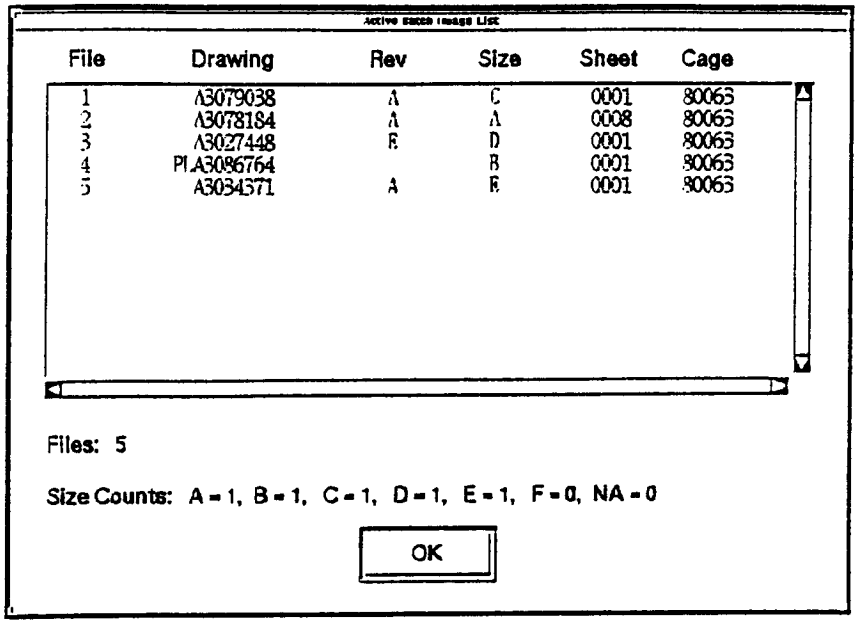



**Figure 53. Batch Image List**

Click [OK] to close the window. The JEDMICS/CADA status window can be displayed at any time by selecting the Show Status Window command from the Status pull-down menu. The window can be left open; it will automatically update it's information to reflect the current status of the batch.

### 4.3.8 Opening a Batch

To open a previously loaded batch, select [Open] from the Batch pull-down menu. If there is an active batch, JEDMICS/CADA will prompt the user asking if the active batch should be suspended. A list of batches on hold in the batch pool is displayed in the Open Batch dialog window (Figure 54) Clicking on [Show Image List] will display a list of all the images in a highlighted batch. The status and program name/description information of each batch is listed. Select the desired batch and then click [OK] to open a batch.

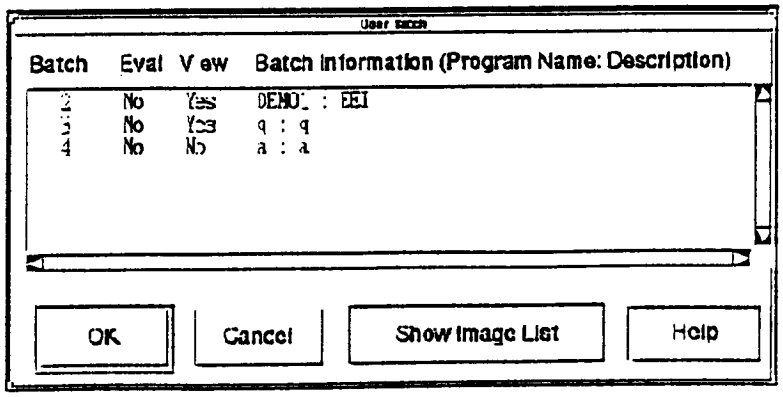



**Figure 54. Open Batch Dialog Box**

### 4.3.9 Performing an Automated Evaluation

As discussed in Section 4.3 there are four methods of data Input. Input can come from JEDMICS Permanent, Pending and Input from a Tape or Directory. Prior to evaluation, the user should set the various options used to control the automated process. The user can perform this action by displaying the Evaluation Options window (refer to Figure 8) using the Evaluation Options command (located under the Options pull-down menu of the main window). CADA's automated evaluation consists of three major processes: Image Quality analysis, Image Validation and ID Validation.

**Image Quality Analysis:** Checks an image's quality for legibility and reproducibility.

**Image Validation:** Checks an image for skew, conformance to ANSI Size dimensions and border locations. Also rotates image to the right side up orientation if needed.

**ID Validation:** Locates and recognizes ID within the raster data and verifies the accuracy of the supplied header ID information for the image.

An evaluation will at least perform Image Quality Analysis. The Image Validation and ID Validation processes are optional, however, to run ID Validation, Image Validation must be turned on. The user can set the various options by selecting the [ON] or [OFF] buttons or entering information in the text edit fields. For a more detailed discussion of the evaluation parameter settings, refer to Appendix B.

If a query had been submitted against JEDMICS Permanent, with auto-run on JEDMICS/CADA will perform continuous processing for the entire query. Sub batches will be downloaded and evaluated, then removed.

After evaluation, the evaluation report will be generated and if automatic report print is turned on, the report will be printed. After the generation of the report, the sub batch will be deleted and the next sub batch will be input.

If the query was against JEDMICS Pending, the same processing, specified for Permanent, will occur. In addition, the evaluated batch will be output to Pending as a New Pending Batch with the appropriate QA flags set. An additional report (Pending Status Report) will exist which will give the results of the Pending output.

The following evaluation parameters can be set.

**Image Quality Data Type**

**New Contractor:** Data received directly from a contractor and considered new data with status of first entrance into the JEDMICS repository where high quality is expected. The thresholds of the image quality parameters used in image

quality evaluation for New Contractor data are much stricter than for Legacy data.

**Legacy Data:** Data that is resident in the repository. This data is expected to be legible and reproducible but need not be of superior quality The thresholds for this image quality evaluation are more lenient than they are for New Contractor evaluation.

**Check Quality**

**Entire Image** Image quality is performed for the entire image scan area.

**Within Image Borders** If the border of an image is found, then image quality evaluation is done only within the found borders of the image. If the border cannot be detected, or the data area cannot be determined, the entire scan area will be evaluated.

Thus there are four different Image Quality settings that an operator may select to evaluate a batch. The following paragraphs explain their differences.

If New Contractor/Entire Image is selected, this strictest setting will reject an image for any quality issue.(i.e.; fading, noise), inside and outside of the borders.

If New Contractor/Within Image Borders is selected a minimum amount of noise will be allowed outside of the borders of an image while a strict requirement for a good clean quality image will be required inside of the borders of the image.

If Legacy/Entire Image is selected, JEDMICS/CADA will reject those images with unacceptable quality outside and inside the borders.

If Legacy/Within the Borders is selected, JEDMICS/CADA will reject only those images with unacceptable quality inside the borders of the image. JEDMICS/CADA will disregard noise outside the border of the image and tolerate a minimum of noise within the borders of an image. This is a lenient setting.

**Image Validation:** Image validation may be turned on or off before an evaluation. This Option checks an image for skew, conformance to ANSI size dimensions and border location . The Minimum and Maximum Document Dimensions are set in the cada.config file This Option is required for within the boarder Image QA. This is set to on automatically by CADA if "within" is selected.

**ID Verification** This Option locates and recognizes ID within the raster image and verifies the accuracy of the supplied header ID information. Depending on how JEDMICS/CADA classifies an image, different ID will be verified.

**Engineering drawings:** This will check for Drawing Number, CAGE Code, Size, Revision, and Sheet.

**Associated Lists:** This will check for Drawing Type, Drawing Number, CAGE Code, Revision, and Sheet.

**Accompanying Documents** (only applicable to Input from JEDMICS Permanent). This will check base Drawing Number, and Accompanying Document Number.

ID Verification requires the Image Validation option be on. CADA will automatically set Image Validation on if ID Verification is set. The operator may choose not to verify CAGE if all data is from a single contractor and may also allow the sheet box to be blank if this is allowed for the first sheet of a multi-sheet drawing.

The operator has the option of ignoring revision zone information contained in the separate revision block of the image. When this option is selected, JEDMICS/CADA will only match the revision letters recognized in the title block to the revision letters contained in the JEDMICS index.

**Image Rotation:** The Rotation feature can be enabled for any non-CALS images. This feature will automatically attempt to determine the proper rotation of a non-CALS image that do not have orientation information present. This will only be used if ID verification is ON. If Input is from a JEDMICS repository, it is strongly recommended that this Option be turned ON.

**Intelligent rotation** On - Off

**Default rotation** 0 90 180 270

**Miscellaneous:**

| | |
|---|---|
| Query Image Hit Limit | 1000 |
| Max_Sub_Batch_size | 100 = default |
| Automatic run | |

**Automatic Run and Automatic Report Print:** These are two configurable items under Miscellaneous on the JEDMICS/CADA Options Evaluation dialog. If Automatic Run and Automatic Report Print are set to ON, JEDMICS/CADA automatically evaluates and removes the batch query and automatically prints out the evaluation report for each sub batch.

**Evaluation Report Style** Full Report lists the status of all evaluated images. Rejects Only lists the status of rejected images.

**Disabling the Automatic Features:** If the user chooses OFF for the Automatic Run and Automatic Report Print, then the query will have to be run manually. The user may elect to turn Automatic On or OFF within the run. Viewing the images within the Visual QA workspace is not possible when Automatic run is ON. If the Automatic mode is turned off, each subsequent sub batch for a query will have to be initiated by choosing the Input/Continue Query command mode from the Batch menu while a query is still active. A Continuation confirmation is displayed for the user to acknowledge. If the user selects "Start New" the Query Criteria Dialog screen is displayed. It is not possible to resume an old query once a new query has been started.

*NOTE*

***If the user selects Permanent or Pending from the Batch Input drop-down menu and there is already an outstanding Permanent or Pending Query against the same data base, then one of three question boxes will appear (see Figure 55a):***

1. ***There is an Outstanding Query,***
2. ***There is an Outstanding Permanent Query, or***
3. ***There is an Outstanding Pending Query.***

***By selecting start new, a new query (Permanent or Pending -- depending on the user's choice at the drop-down menu) will be initiated. By selecting continue, the Outstanding Query will continue. The user cannot start a Pending Query with an Outstanding Permanent Query open, and visa-versa. JEDMICS/CADA will not allow a user to continue an outstanding query if the query attempt is against Pending and the original query was against Permanent, and visa-versa (see Figure 55b).***

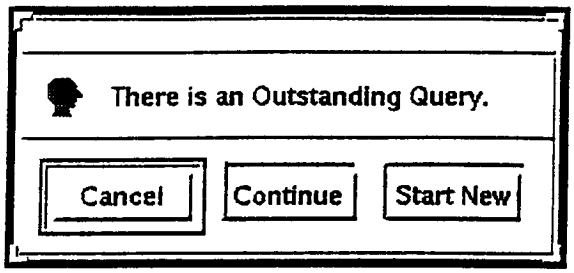



**Figure 55a. Outstanding Query (Permanent) Query attempted against original source**

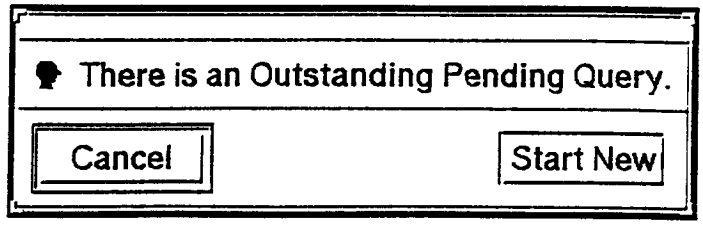



**Figure 55b. Outstanding Query (Pending) Query against different source**

Once a batch has been input and evaluation parameters are set, the user can start the automated evaluation of the images in the batch. Select Evaluate from the main window menu bar and then select the Evaluate Active Batch command. A window indicating the parameters and batch size will display (Figure 56). The time to evaluate a batch will vary depending on the evaluation parameters set by the user. The window indicates which of the three major processes will be used for the evaluation.

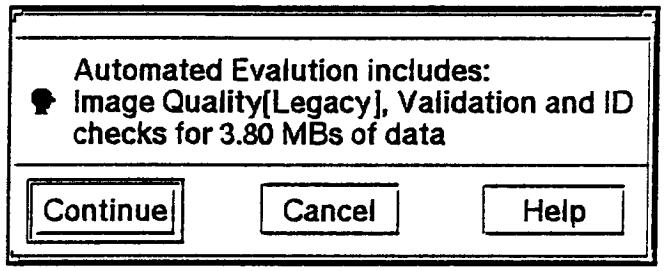



**Figure 56. Evaluation Confirmation Dialog Window**

Select [Continue] to proceed with the evaluation. If the user, for any reason, does not want to evaluate the loaded batch, it can be suspended/unloaded and another batch should be loaded/opened. To do this, select [Cancel].

JEDMICS/CADA indicates that the evaluation is taking place by displaying a progress report on the main window canvas (Figure 57). As each image is evaluated, the fields indicating the number of Accepted and Rejected images in the batch are updated. If the automatic run option is ON and the user is evaluating from a JEDMICS repository, the Batch Flow (shown in Figure 33) will proceed without the need for user input.

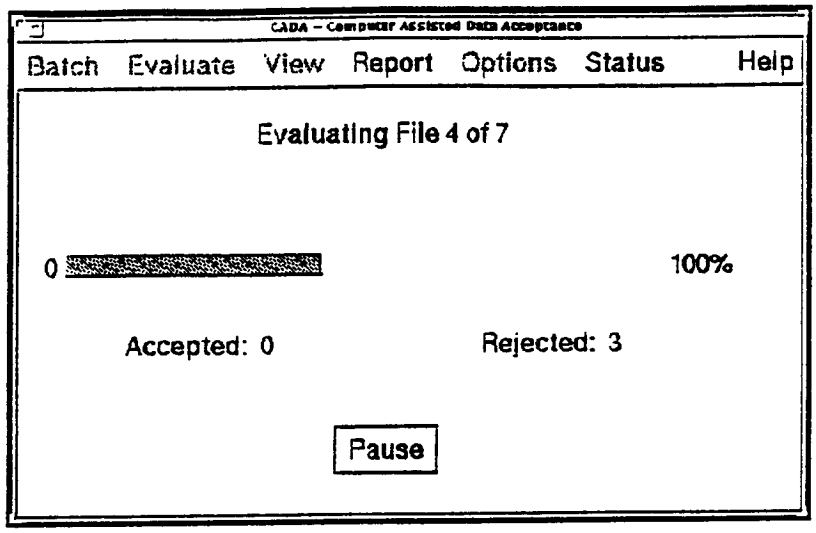



**Figure 57. Automatic Evaluation Window**

*NOTE:*

***If the batch contains J-size images, then this running count may not match the final count. This is because a J-size drawing consists of multiple images. The ID verification decision from the appropriate image is applied to the rest of the images in its group at a later time during evaluation. The final accept/reject count supersedes the running count.***

Clicking [Pause] will interrupt the evaluation process and query the user: *Stop Evaluation?* in a dialog box. To terminate the process click [Stop]. To override and proceed with the evaluation, click [Continue].

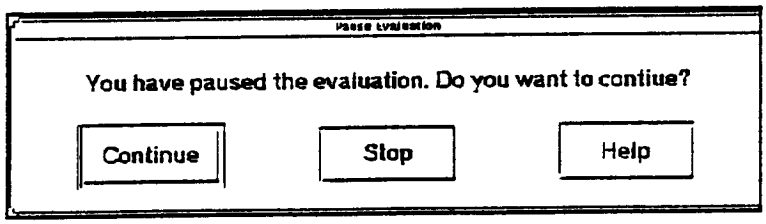



**Figure 58. Pause Evaluation**

*NOTE:*

***Click on the [Pause] button only once. There is a delay between clicking and the time the evaluation actually pauses.***

When the evaluation is complete, a **Batch Evaluation Summary** window (Figure 59) displays indicating the number of images in the batch that have been accepted or rejected.

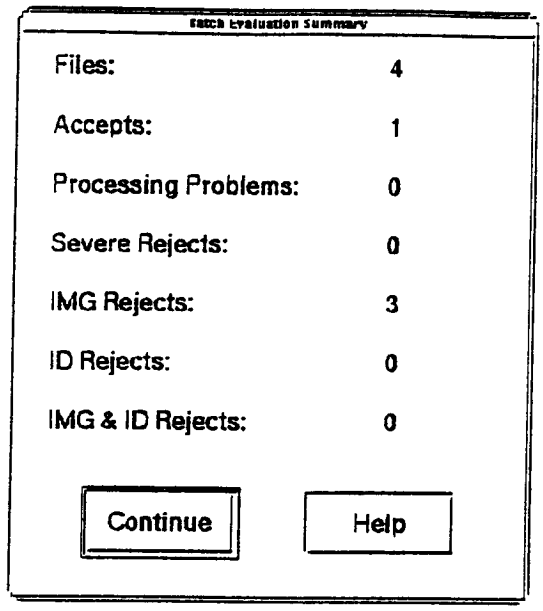



**Figure 59. Batch Evaluation Summary Window**

*NOTE:*
*CADA allows for the re-evaluation of a batch. If the user elects to evaluate a batch that has previously been evaluated, all previous evaluation results including operator overrides and ID header changes will be lost. Any entered notes about an image, while in the visual QA workspace, will be retained.*

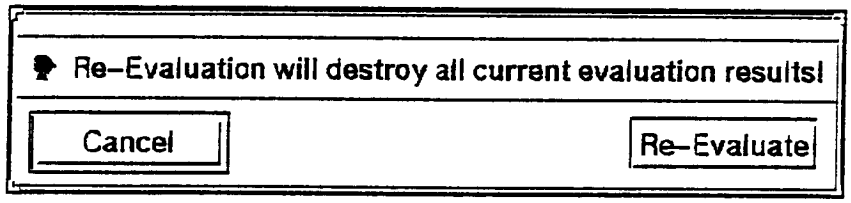



**Figure 60. Re-evaluation Dialog Box**

Click on [Continue] to resume normal operations. The Status screen will display again with the updated batch information. The Recommended Next Action will be Select View or Repeat Evaluation.

### 4.3.10 How to View a Batch

To view and QA images of the active batch, select from the main window menu bar. The View pull-down menu allows the user to View All of the images, view images sorted by a particular criteria, choose from the Batch Image List, or Resume a suspended visual QA session. The images viewed by the user are shown in alphanumeric or as-delivered order, depending on the setting currently selected in the Options Application window (refer to Figure 7). Click on the [View] menu to display the view commands.

**View All** — View all the images in the active batch.

**Sort By...** — View the images by a specified increment or evaluation status or ID. (e.g., all rejected images or all accepted images or Drawing No).

**Resume** — Resume viewing at the point left off during previous visual QA session.

**From Batch Image List** — Choose any number of images from the image list to view.

**Command Sort By...** — This command allows the operator to view the images by JEDMICS/CADA evaluation status (e.g., all rejected images or all accepted images), by key ID data or by increment (e.g., every 5th image). The window (Figure 61) displays radio buttons for the three types of sorting. Clicking on [By Evaluation Status], [By Key ID Data], or [By Increment] brings up each item's sort options. Multiple sort options for a category can be selected (e.g., using the By Evaluation Status sorting category, both [Overrides], and [All Accepts] could be selected to view all the images that have this status).

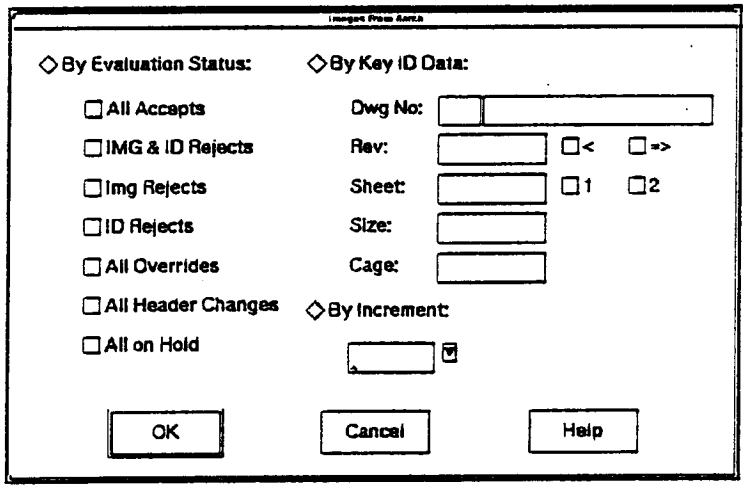



**Figure 61. Sort Batch Images Dialog Window**

**By Evaluation Status:** — This option allows the user to view All Accepts, All Image and ID Rejects, All Image Rejects, All ID Rejects, All User Overrides of JEDMICS/CADA decisions, All User Changes of Original Header Data, and/or All Images on Hold.

**By Key ID Data:** — This option allows the user to view a subset of the batch based upon any combination of key ID data. Key ID fields include document

type, drawing number, revision, sheet, and cage code. Greater or less than filters are available for the revision field (e.g. all images with a revision higher than A). The user can also select to view the first, second, and/or an arbitrary sheet number of any document in the batch.

**By Increment:** Enter the number of images in the batch to skip when Next Image or Previous Image commands are invoked. Click the down arrow button to select a number from the scrollable list or click in the editable text field to type in the number of images to be skipped when viewing.

**From Batch Image List:** Choosing this option displays a list of images in the batch (Figure 62). The operator can then select which images are to be viewed. To select several individual images, select an image, then hold down the <CONTROL> key and continue to select the rest of the desired images using the mouse. To select a range, do not release the mouse after selecting the first image, move the pointer to the last image, and release the mouse. A group (range) of images should be highlighted. Then choose OK.

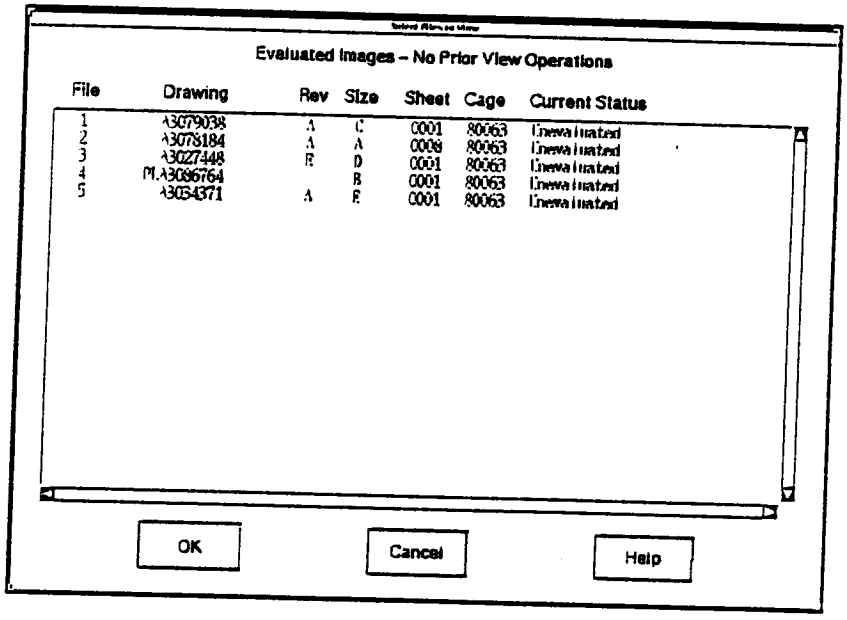



**Figure 62. Select From Batch Image List Dialog Window**

### 4.3.11 The Visual QA Workspace

The JEDMICS/CADA visual QA workspace is displayed when any of the View (from the JEDMICS/CADA main menu bar) pull-down menu commands (Figure 63) are selected. The user will perform most QA operations (viewing, printing, overriding results, etc.) from this window. Each of the visual QA workspace commands (Figure 64) are described as follows:

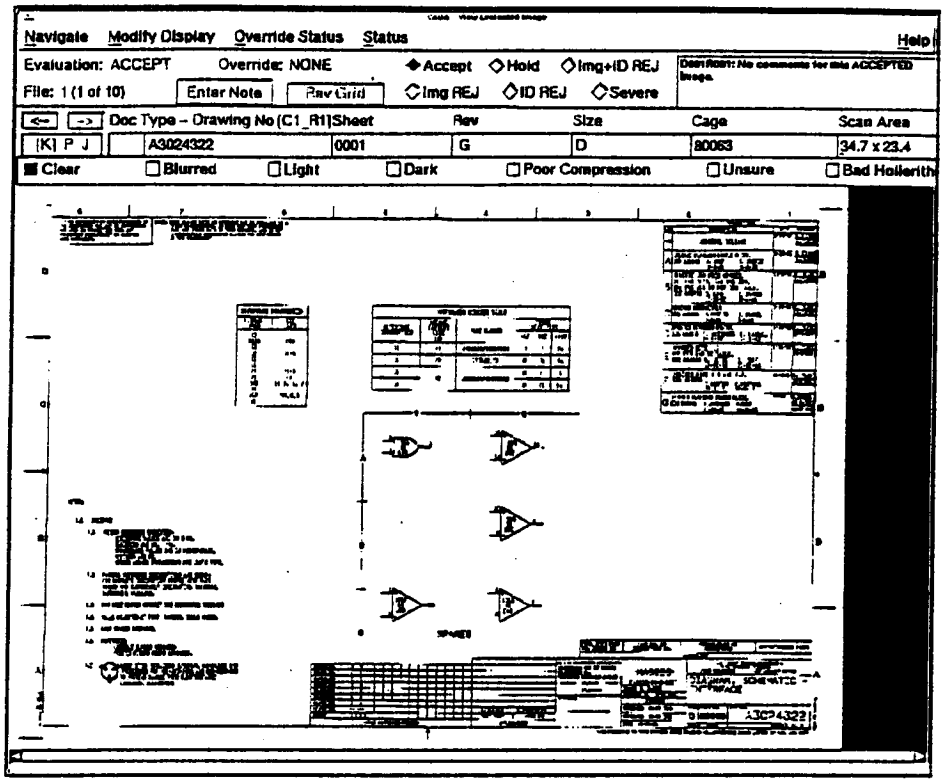



**Figure 63. Visual QA Workspace**

**Operator Image Quality Decision Bar:**

The JEDMICS/CADA to JEDMICS errors get displayed on the JEDMICS workstation when the operator chooses to output to Pending. Any combination of the quality radio button may be selected to tag the image. The selections are Clear, Blurred, Light, Dark, Poor Compression, Unsure and Bad Hollerith.

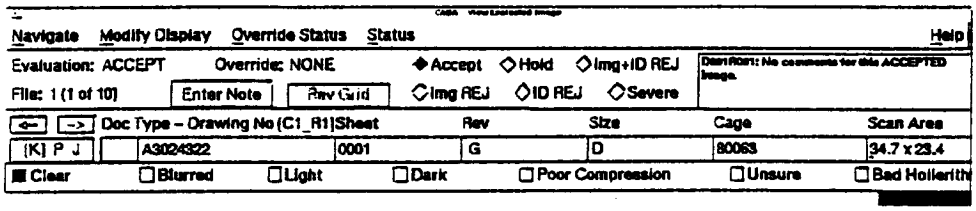



**Figure 64. Image Quality Decision radio buttons on the Visual QA workspace**

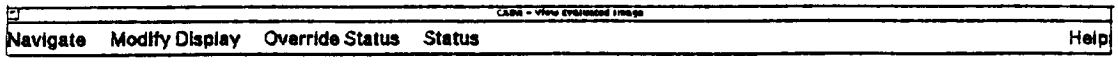



**Figure 65. Visual QA Workspace Menu Bar**

**Navigate:** These commands display the next or previous image, print a hard copy of the current image displayed, or allow the user to terminate the visual QA session.

**Next/Prev:** Display the next or previous image. This function can also be performed by using the [<-] or [->] buttons located in the header information area of the visual QA workspace.

**Print Entire Image:** Prints the entire image. The image is scaled and rotated to fit the printer page dimensions specified in the Configure Application window (refer to Appendix B).

**Print Image Canvas:** Prints what is currently displayed within the image window. The partial image is scaled and rotated to fit the printer page dimensions specified in the Configure Application window (refer to Appendix B).

**Stop Viewing:** Terminates the visual QA session. JEDMICS/CADA will prompt the user to confirm the termination of the session before exiting.

**Modify Display:** These commands allow the operator to change the size, orientation, and position of the image on the screen.

**Fit To Window:** Displays the entire drawing on the image. This is the default selection when an image first appears. This can be the default display for an image (refer to Appendix B).

**Full Scale:** Displays the actual physical size of the drawing (1:1 ratio). This can be the default display for an image (refer to Appendix B).

**1 to 1 Pixel Mapping:** Displays a pixel for pixel representation of the image. This display is the exact reproduction of the raster data.

***CAUTION: Only 1 to 1 Pixel Mapping shows what data is actually stored in the raster image. Any other view such as Fit To Window or Full Scale, degrades the image, since the image must be scaled down to the different sizes. QA decisions should be made with regard to this situation.***

**Corner Zones:** Display the image at four times the viewing canvas size (however, not beyond 1 to 1 pixel mapping). This will ensure that when a GoTo Corner command is used, at least 25 percent of the image is displayed. When the batch is

evaluated, the image will be positioned in the first bad image quality zone specified by CADA.

**Zoom Out:** Displays 50 percent more of the image.

**Full Screen:** Increases the image canvas size. The JEDMICS/CADA evaluation status and Header ID information will not be visible.

**Invert Image:** Select this view to reverse the image's background and foreground colors.

**Rotate 180:** Rotates the image 180 degrees from its current orientation.

**Rotate Left 90:** Rotates the image 90 degrees counter clockwise from its current orientation.

**Rotate Right 90:** Rotates the image 90 degrees clockwise from its current orientation.

**Goto Upper Left Corner:** Automatically positions the image to display this location.

**Goto Upper Right Corner:** Automatically positions the image to display this location.

**Goto Center:** Automatically positions the image to display this location.

**Goto Lower Left Corner:** Automatically positions the image to display this location.

**Goto Lower Right Corner:** Automatically positions the image to display this location.

**Show Scroll Grid:** Overlays a scroll grid on the image canvas to display the mouse-click scroll zones (described later).

**Override Status:** These commands allow the operator to change or describe various aspects of an image's evaluation status, header information, etc.

**Revert to Original CALS Header:** Revert an image's Hollerith data back to its original value.

**Fix Rotation:** Allows the user to set the correct orientation of the image.

**Enter Note:** Allows entry of a descriptive note of up to 255 alphanumeric characters about an image (this note will appear in the Evaluation Status report).

**Status:** This displays the Status screen. This screen is continually updated by JEDMICS/CADA to display the most current batch information. Select OK to close the box.

### 4.3.12 Special QA Functions

Several functions are provided to help the user perform a variety of tasks. Users can display all of the Hollerith data for an image, override an image's evaluation status, display a revision sheet grid for a document in the batch, or add a descriptive note to an image that will show up in an evaluation status report.

**Display Hollerith Information:** A [Key/Prod/JEDMICS] button is displayed (Figures 66 through 68) under the Next and Prev Image ([<-] and [->]) buttons located in the header information area of the visual QA workspace. Clicking this button toggles the header display between the Key ID data (Figure 66), the Product Information Data (Figure 67), and JEDMICS specific data. It does not matter whether the Key or Product information is displayed when moving to the next or previous image. The Hollerith display will be updated accordingly and still can be toggled at any time.

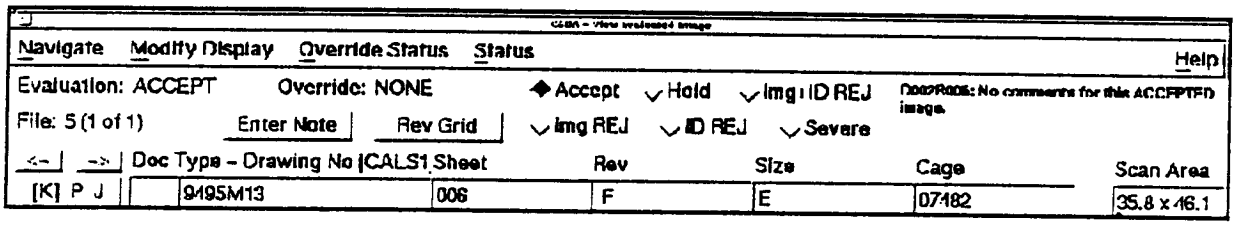



**Figure 66. Display of Key ID Data in Hollerith**

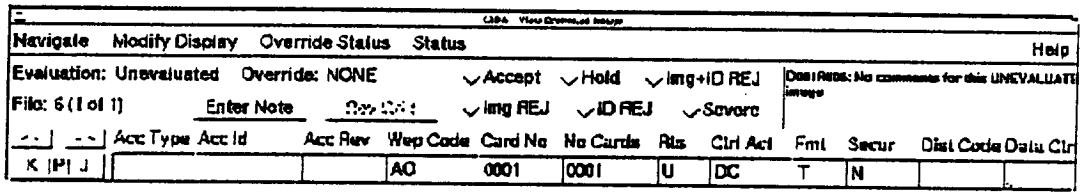



**Figure 67. Display of Product Data in Hollerith**

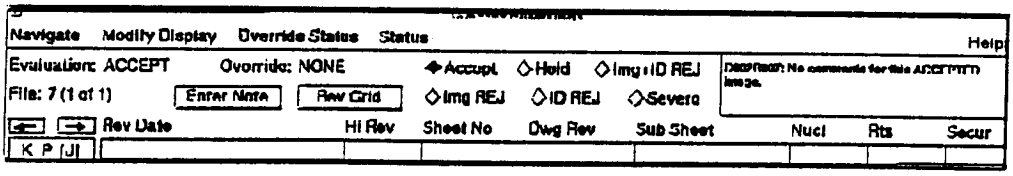



**Figure 68. Display of JEDMICS Header**

The user can modify the key header ID information of an image by clicking the pointer in the desired editable text field and entering in

the new information. JEDMICS/CADA will right or left justify text or pad numbers with leading zero, if applicable, for the key ID fields. Before moving to the next image or terminating the visual QA session, JEDMICS/CADA will ask the user to confirm the header modification made before proceeding (Figure 69). Header modifications will be shown in the Evaluation Status Report. A typical change is shown in Figure 69. When the active batch is output to tape or a directory, the images are written with the modified header information.

Files Accepted

| File | Drawing | Rev | Size | Sheet | CAGE | Automated | Final |
|---|---|---|---|---|---|---|---|
| D001R005 | 481-200336 | B | 0 | 000 | 67346 | ACCEPT | ACCEPT |
| ******** | 481200336 | b | a | 0001 | 67346 | | |

Note: I removed the dash in the drawing number and I also fixed the size (from 0 to A)

**Figure 69. Modification of Key ID Hollerith data in Evaluation Status Report**

**Revision Status of Sheets:** For any given document in an evaluated batch, a Revision Status of Sheets grid is generated from the header information. To display the grid, click on the [Rev Grid] button located in the header information area of the visual QA workspace. A Revision Sheet Grid window (Figure 70) will appear. This window displays the following document information: Drawing Number, Total Frames, and Total Expected Frames. For each of the images within a document, the following information is displayed: File Number, Frame Number, Sheet Number, and Revision Letter. This feature is only available if the batch has already been evaluated.

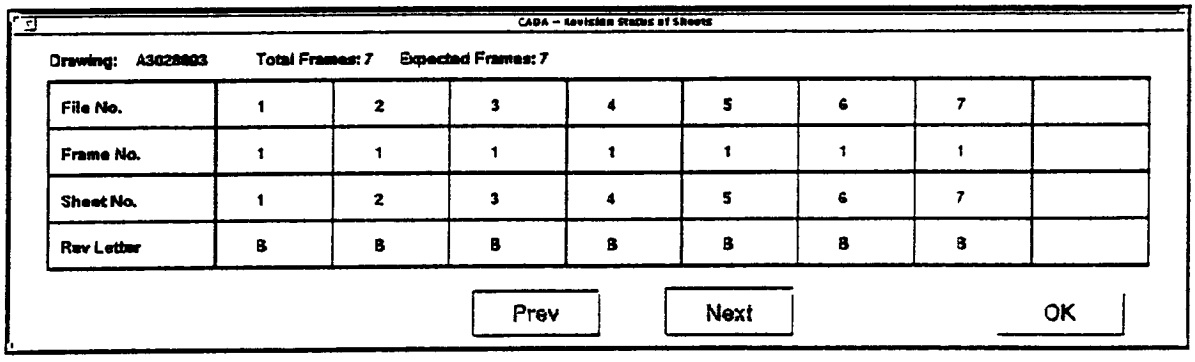



**Figure 70. Revision Sheet Grid Window**

If the document has more than eight images, the [Next] and [Prev] buttons will become active. Clicking on these buttons will populate the grid with

data from the next or previous eight images in the document. This information should be checked against the rev-sheet grid which is usually located on the first sheet of the document. If the information displayed does not match up with the information in the images grid, this document should be rejected. Click [OK] to close the window.

**Overriding the Evaluation Decision:**

While viewing images, the operator may decide to change a file's JEDMICS/CADA evaluation status. JEDMICS/CADA will reject an image if there are quality problems in the image (e.g., noise, pixel ratio not acceptable, etc.).

JEDMICS/CADA will also reject an image if it is unable to read the information in the title block properly and match it to the header ID information.

A "rejected" evaluation status may be overridden by the user. The same is true for an image with an "accepted" evaluation status. The operator has the ability to reject an image based upon image quality, erroneous header ID information, or both. Users can also perform overrides by using the Override Radio Buttons (Accept, Image Reject, ID Reject, Image & ID Reject, and Place on Hold) located at the top center of the visual QA module (Figure 71).

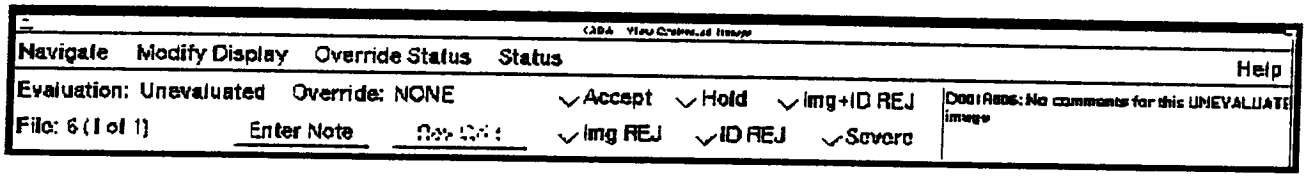



**Figure 71. Override Status Radio Buttons**

At this time the user might want to enter a Note about the change of Status. This may be done by selecting **Enter Note...** from the Override Status pull-down menu or by clicking on the [Enter Note] button located in the header information area of the visual QA workspace. The [Enter Note] button will display a star if a note has already been entered by the user for an image (e.g., [Enter Note * ]).

An Enter Note window (Figure 72) will appear. This window allows the user multi-line text input. Click in the editable text field to type in the desired note. Notes are limited to 255 characters. Any text entered above this limit will be truncated. The text will automatically scroll up when the first screen is filled. To view/edit information which has scrolled

up, use the <-> up arrow key. Enter Note window buttons will perform the following functions.

**Save:** This button will save the current contents of the Enter Note window and close the window.

**Do Not Save:** This button will close the window without saving any newly-entered information, but will retain the initially displayed note.

**Clear:** This button will clear the displayed note. To save a "blank" note you must click the [Save] button.

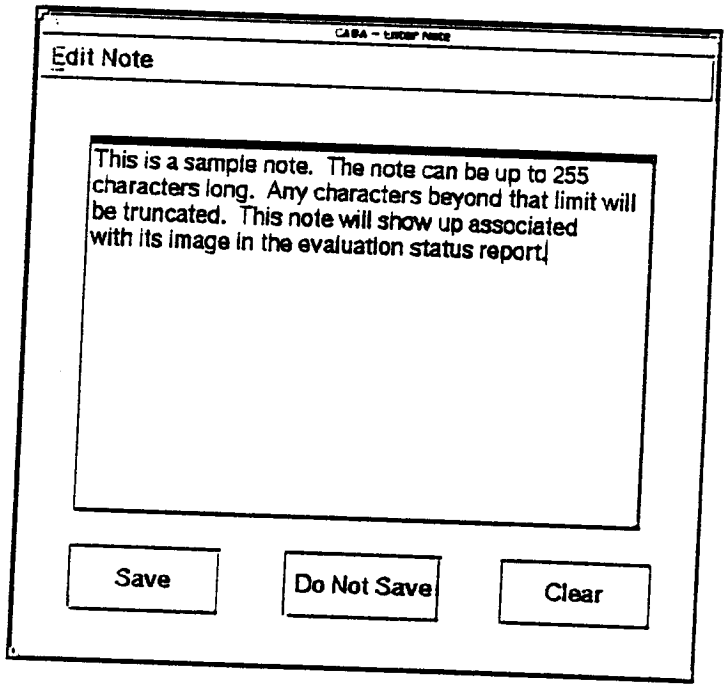



**Figure 72. Enter Note Dialog Window**

Notes will appear in the Evaluation Status report listed under the image's header and status information.

### 4.3.13 Navigating the Visual QA Image Canvas

**Image Positioning and Scrolling:** If the entire contents of an image cannot be seen within the image canvas, the user has several options available to navigate through the raster data. As stated before, the user can reduce the scale of the image by using the Fit to Window or Zoom Out commands. However, the user can remain at the current view and use the Goto

to (X) Corner commands from the Modify Display pull-down menu which provide a quick and easy way to instantly jump to one section of an image. The image canvas scroll bars can also be used to pan around the image.

The scroll bar consists of a thumbnail, scroll area, and scroll arrows. The thumbnail shows the percentage of the image currently viewable in the image canvas. For example the vertical scroll bar thumbnail occupies approximately 60 percent of the scroll area, thus only 60 percent of the image in the vertical direction can be seen at a time at this zoom level. By pressing any of the scroll bar arrows with the left mouse button, the user can move around the image in small increments. By clicking the left mouse button in the Page Down or Up Area of a scroll bar, the user can move the image in large increments. The user can also drag a scroll bar thumbnail to move the image.

Scrolling through an image can also be performed by clicking the right mouse button in one of the eight scroll zones on the image canvas. By using the Show Scroll Grid command from the Modify Display pull-down menu, the user can overlay the scroll grid on the image canvas. The scroll grid does not have to be present to be able to use this feature. Clicking the right mouse button in a scroll zone moves the image in small increments. By holding <SHIFT> + clicking the right mouse button in a scroll zone it moves the image in large increments.

**Keyboard Equivalents:** Keyboard equivalents are also provided to perform the scrolling operations. By pressing one of the keys shown in Figure 73, the user can move the image in small increments.

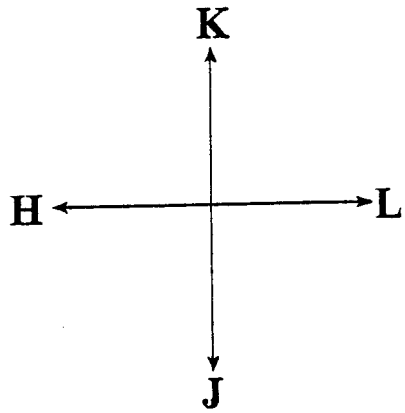



**Figure 73. Keyboard Scrolling Equivalents**

A movie player style of scrolling is also available to the user from the keyboard. By holding down either the <A> or <D> keys, the user can have the image automatically pan through the image at a moderate speed so that every part of the image will eventually be displayed.

By holding <SHIFT> + one of the keyboard scrolling equivalents, the image can be moved in large increments.

**Zooming In on a Selected Area:** JEDMICS/CADA also allows the user to zoom in on a selected area of an image. By drawing a box around the desired portion of the displayed image, JEDMICS/CADA will increase the scale of the image and properly position it so the selected area is enlarged. Drawing a zoom box (Figure 74) requires the following steps:

1. Place the mouse pointer at the upper left corner of the desired area.

2. While holding down the left mouse button, drag the zoom box cross hairs to the bottom right corner of the desired area. The zoom box will be redrawn as the cross hairs are moved.

3. Once the desired area is surrounded by the zoom box, release the mouse button and JEDMICS/CADA will enlarge the area to fit the image canvas.

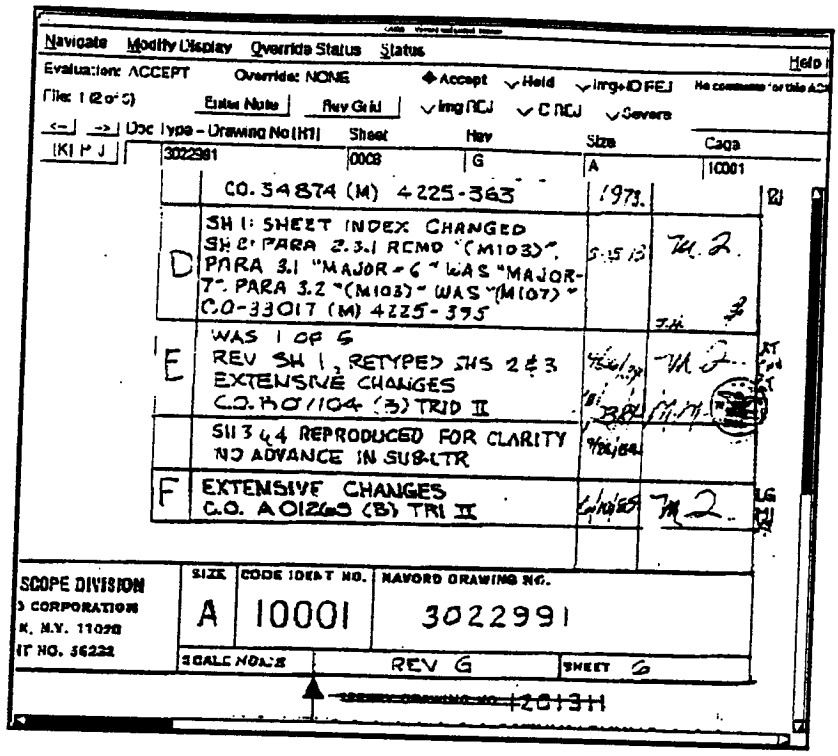



**Figure 74. Zooming in on Selected Area**

*NOTE:*

***The user can only zoom in to a scale equivalent to 1 to 1 Pixel mapping. If a zoom box is made with less than 50 pixels in either dimension, the selected area will not be enlarged.***

### 4.3.14 Generating a JEDMICS/CADA Report

**Evaluation Report Style:** When the automatic run is configured ON, the reports are automatically generated at the end of the evaluation. By selecting Full Report , all accepted and rejected files will be printed on the report.

By selecting Rejects Only, only the files rejected by JEDMICS/CADA will be printed out. The report specifies the overall statistics the other configurable items that were chosen before evaluation such as ID validation, Image Validation and Image Quality. The Evaluation Status report also lists information about each image in a batch including its key ID data, user-generated on-line comments and a final reject/accept decision. The Query information is listed at the top of the evaluation report.

To print or view the reports, select the Report pull-down menu from the main menu bar. The menu displays five choices: **Evaluation Status**, **Batch Data List**, **Integrity Report**, **Pending Status Report**, and **Closed**

**Batches.** Once a report has been selected, the user can choose to print the report, view the report on the screen, or cancel the report operation.

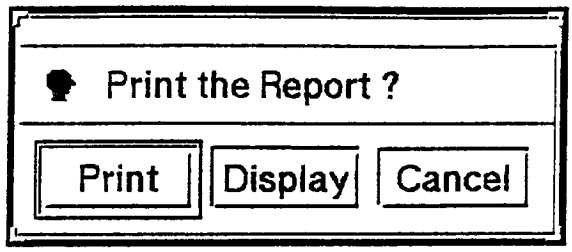



**Figure 75. Print the Report**

On the JEDMICS/CADA Main Window the following report message will appear after selecting Evaluation Report Print.

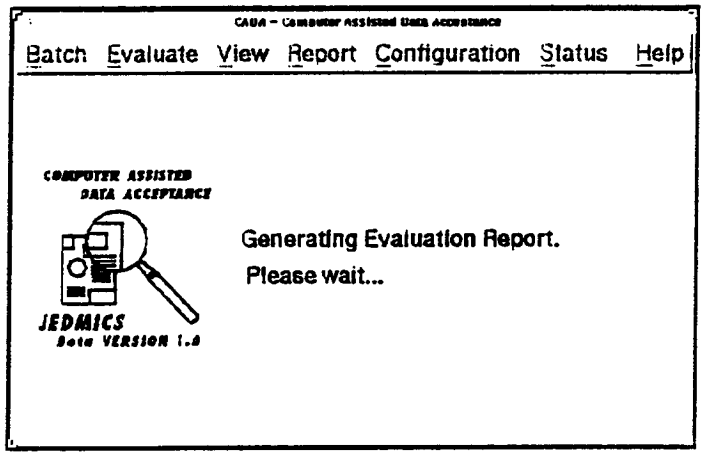



**Figure 76. Generating an Evaluation Report**

**Evaluation Status Report:** The Evaluation Status Report is a snapshot of the current active batch. Contrary to the **CLOSED BATCH REPORT**, the batch evaluation status can be printed or viewed without closing the batch. The report specifies the overall statistics of batch as well as what conditions with which the batch was evaluated. The Evaluation Status report also lists information about each image in a batch including its key ID data, user-generated on-line comments, and a final reject/accept decision. This report can be generated at any time during a JEDMICS/CADA session on an active batch. Figures 77 and 78 show a sample report as it would display on the screen.

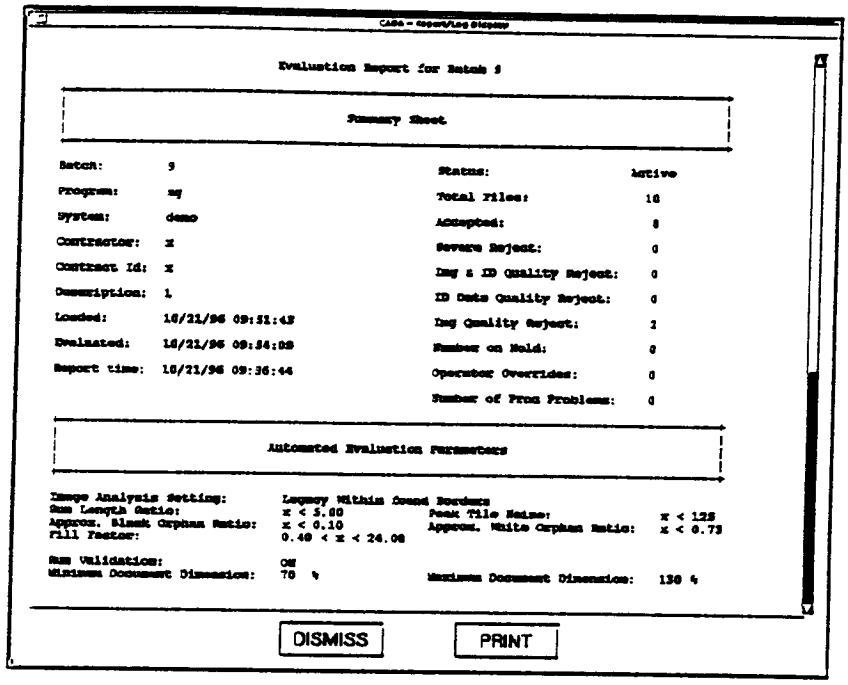



**Figure 77. Evaluation Status Report Window (Part 1)**

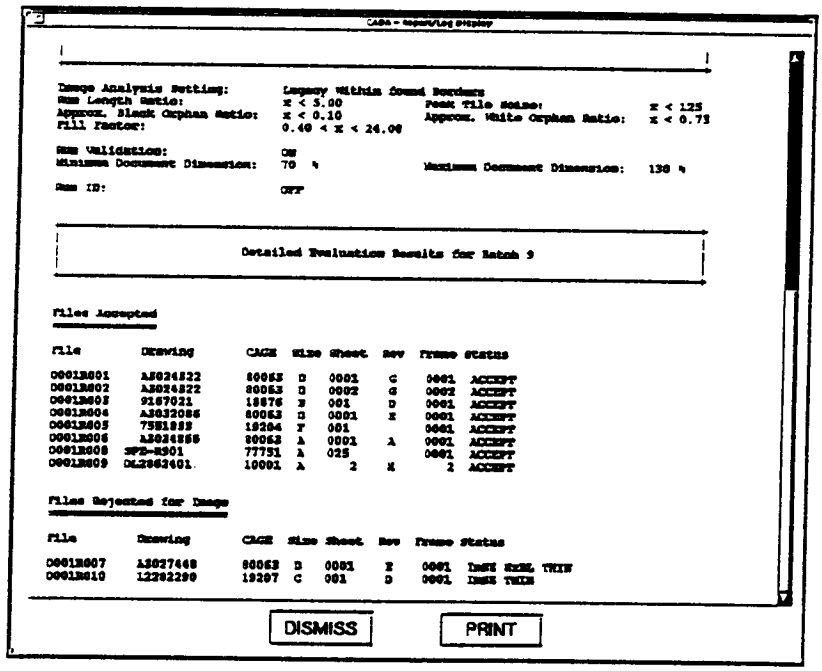



**Figure 78. Evaluation Status Report Window (Part 2)**

**Batch Data List:** The Batch Data List Report (Figure 79) contains general information on a batch. The three sections of the report are: the Batch Summary, MIL-STD-1840A or C4 (in the case of C4, some fields will be labeled *none*) Declaration, and Batch Image List Summary.

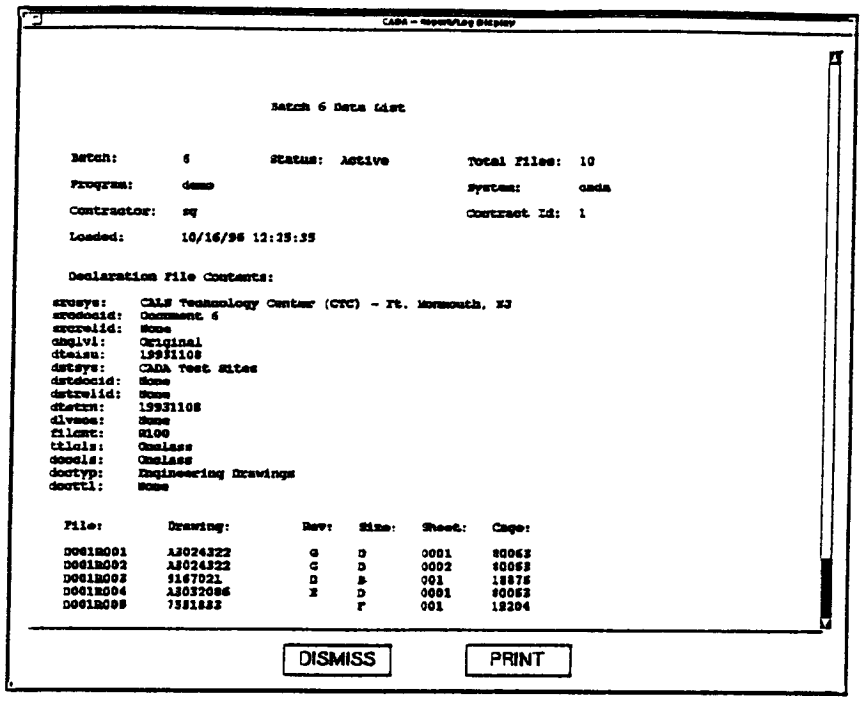



**Figure 79. Batch Data List Report Window**

**Batch Summary:** General information on the batch including current status, total file count, and contract information.

**MIL-STD-1840A Declaration:** Complete contents of MIL-STD-1840A declaration file or C4 data.

**Batch Image List Summary:** Summary of drawing ID (drawing number, revision, size, sheet, and CAGE) along with the MIL-STD-1840A file name.

**The Image Integrity Report** This report lists the problems with the images such as non-compliance with C4 specifications or undesirable qualities.

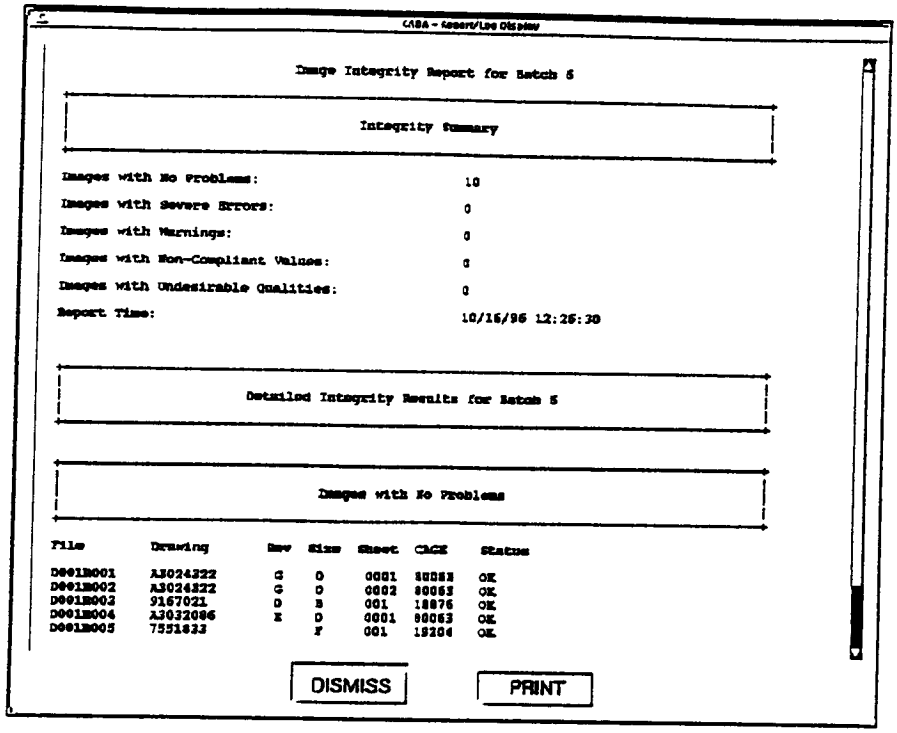



**Figure 80. The Integrity Report File**

## The Pending Status Report

This Report will contain the current status of the processing for the query.

JEDMICS PENDING STATUS REPORT

| | | | |
|---|---|---|---|
| Query Name: | test-100 | Total Images in Query | 8 |
| Query In Date: | | Total Images Uploaded: | 4 |
| Report time: 10/20/96 | 13:58:01 | Original Batch ID: | 1806 |

SubBatch Information

| SubBatch No. | No. of Images | Evaluated? | Uploaded? | New Batch ID | No. Uploaded |
|---|---|---|---|---|---|
| 1 | 2 | Y | Y | 1807 | 2 |
| 2 | 2 | Y | Y | 1808 | 2 |
| 3 | 2 | Y | N | N/A | N/A |
| 4 | 2 | N | N | N/A | N/A |

End of Report

**Figure 81. JEDMICS Pending Status Report**

## Closed Batches:

By using the Closed Batches command, you can open and view or print a report file for a batch that has been evalutated previously, output to pending, or unloaded. A

file selection window (Figure 82) presents the operator with the available Evaluation Status or Batch Data List reports. The naming convention used for the report names are: batch#.report_type where batch# is the number JEDMICS/CADA has assigned to the batch and report_type is either **.cls** for an Evaluation Status. **.lst** for a Batch Data List report, .psr for a Pending Status report, or **.qpl** for a query report. There are two editable text fields and two sub-windows within the File Selection window.

***NOTE***

***A JEDMICS Query Report (file.qpl) can only be printed or canceled. It cannot be displayed.***

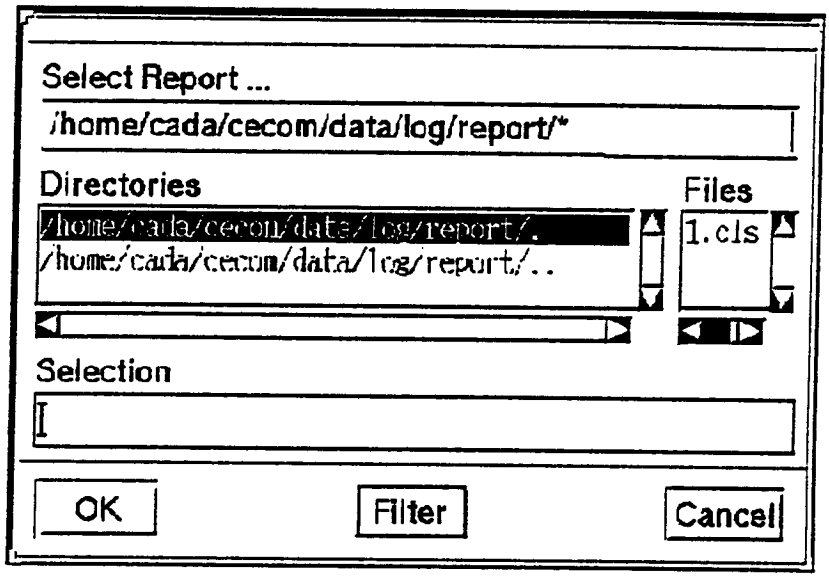



**Figure 82. File Selection Dialog for Opening Reports**

The Directories window (left center window) shows the available directories within your current directory. You can double click these items to navigate through your file system. The Files window (right center window) shows the current files available within your current directory. If you do not see the file you want to open, check to see if the file filter is properly defined. The horizontal scroll bars at the bottom of the windows allow you to see the entire name of an item (directory or filename) if it can not fit within the window. The vertical scroll bar allows you to scroll through the list of available items.

The Select Report window (top editable text field) shows the current directory and a file filter. You can type into this field directly by clicking the pointer in the window then typing the desired filter. For example, to list only Batch Data List reports, the following wild card search would be entered in the Select Report field: **.lst*. For a listing of all reports for batch 25, the entry would be: *25.**. A listing that conforms to the specified filter can be displayed by clicking the [Filter] button.

The Selection window (bottom editable text field) shows the current file selected (a combination of the Directories and Files window items). You can also type into this field directly by clicking the pointer in the window, then typing the desired full filename. Once a report is selected from the Files window, the full path name of the report appears in the Selection field.

The [OK] button is clicked to open and view or print the desired file. This action can also be performed by double clicking the filename in the Files window. If the file cannot be opened, an error message will alert the user. Check to see if the file specified is present in the directory. If there is a problem with the file itself, an error message will be displayed.

Click [Cancel] to terminate the operation.

### 4.3.15 CALS Output

Once a batch has been evaluated, JEDMICS/CADA can be used to output subsets of an active batch to a tape. The **Output To...** command is located under the Batch menu from the main JEDMICS/CADA window. The current version of JEDMICS/CADA supports only output to magnetic tape. Once this has been selected, the CALS output window is displayed (Figure 83).

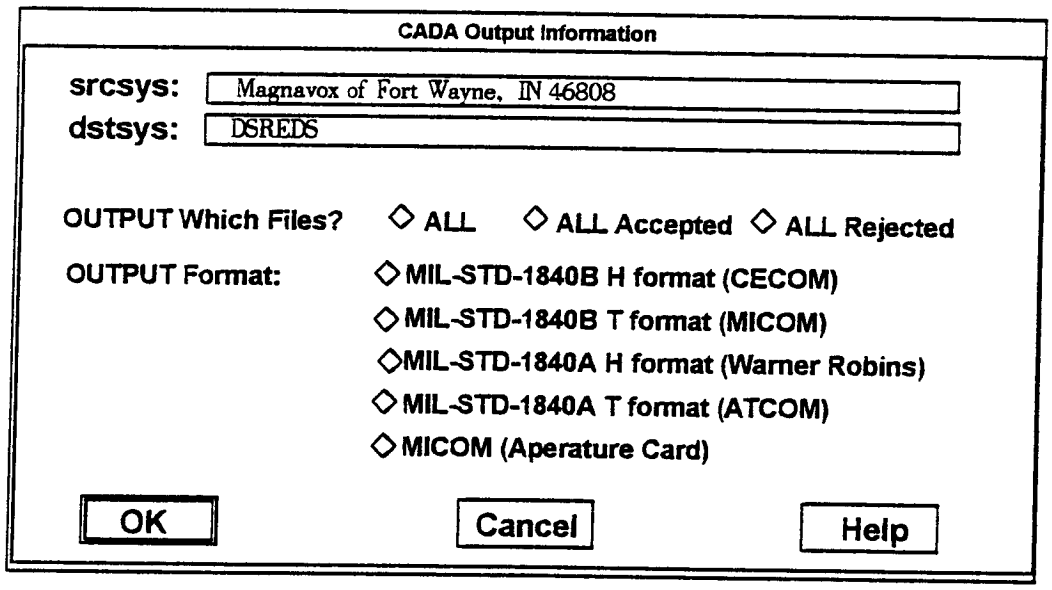



**Figure 83. CALS Output Window**

The user can choose to output only the accepted, rejected, or all of the images in a batch by clicking the appropriate radio button. JEDMICS/CADA only handles MIL-STD-1840A compliant data. The *srcdocid:* field contained within the raster data header is allowed to take one of the five displayed CALS header formats. The output tape will be compliant with MIL-STD-1840A. Once all desired information has been entered and options selected, click [OK] to continue the output process.

If the output destination is a 9-track tape, the Batch Input/Output Dialog Window (Figure 84) will be displayed. Enter the number of tapes in the batch by clicking the pointer in the editable text field and typing the desired number. A selection can also be made from a list of numbers by clicking on the arrow to display a scroll box. Scroll through the list and then click on the desired number to place the number in the editable text field. Select the Tape Density which will be either 1600 cpi or 6250 cpi. Select [OK] to start outputting the batch. Click [Cancel] to terminate the output process.

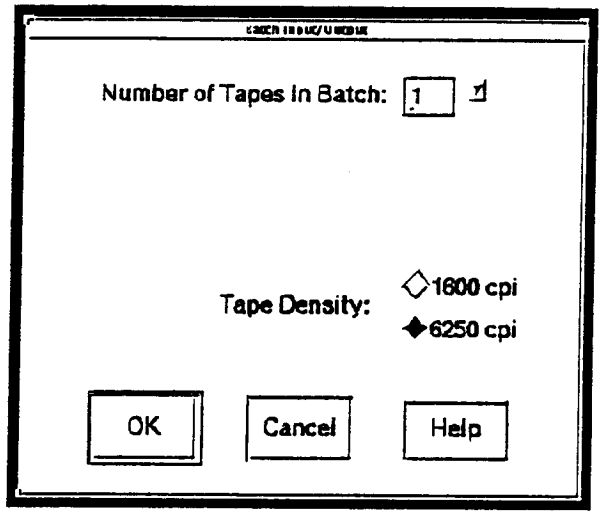



**Figure 84. Batch Input/Output Tape Dialog Window**

### 4.3.16 Suspending or Removing a Batch

Once the user has completed QA of a batch, the batch can be set aside for future processing (using the Suspend command) or removed from CADA's data directory (using the Remove command). If a batch will not be looked at again by a user, the batch should be unloaded to conserve disk space.

**Suspend Batch:** To suspend a batch, select **Suspend** from the **Batch** pull-down menu. This action causes the active batch to be placed on hold in the batch pool. It can be opened using the Open command (located under the Batch pull-down menu of the Main Window) for further operations at any time. JEDMICS/CADA will ask the user to confirm execution of this operation (Figure 85).

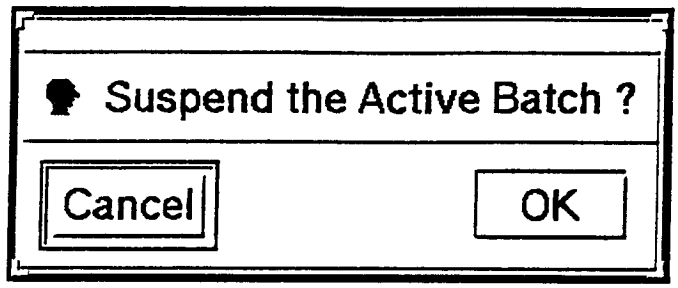



**Figure 85. Suspend Question Dialog Box**

**Remove Batch:** To remove a batch, select **Remove** from the **Batch** pull-down menu. This will generate an Evaluation Batch Report and cause the batch to be deleted from the batch pool. JEDMICS/CADA will ask the user to confirm execution of this operation (Figure 86). The user has the option to print the report or display the report on the screen before the batch is removed.

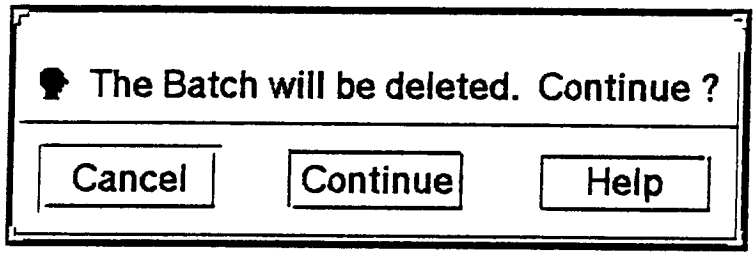



**Figure 86. Unload Batch Dialog Box**

## 4.4 Related Processing

CADA does not perform any batch, off-line, or background processing that is not invoked by the user.

## 4.5 Data Backup

No special data backup procedures are required by CADA. Backups of CADA's Data_Dir, Admin_Dir, and Log_Dir directories can performed by the system administrator during regularly scheduled backups. The system administrator should store CADA's installation tapes or floppies to reinstall the software if necessary.

## 4.6 Recovery from Errors and Malfunctions

Any errors that are serious in nature are specified and the system administrator should be called to handle this situation. Refer to the JEDMICS/CADA Maintenance and Computer Operator's manuals which have instructions to deal with fatal situations.

## 4.7 Messages

CADA displays various messages throughout the application when errors occur. Most of the messages are self-explanatory and non-fatal. The user will be able to deal with this situation which usually involves bad data entry on the user's part. Refer to Appendix E for a listing of how to deal with basic JEDMICS/CADA error messages.

# APPENDIX A
# Help Topics

JEDMICS/CADA is a quality analysis tool that works on raster data and evaluates compliance to MIL-STD 1804A,B, and C4, MIL-STD-28002, and evaluates image quality using automated techniques. JEDMICS/ CADA locates and recognizes ID within the raster data and verifies the accuracy of the supplied CALS header ID information for the image. Once an evaluation is complete, JEDMICS/CADA can output accepted, or the rejected images in a batch.

| Command or Menu Item | Explanation |
|---|---|
| **1 to 1 Pixel Mapping (Command)** | This is a command within the Modify Display menu from the visual QA menu bar. It displays a pixel for pixel representation of the raster data on the visual QA image canvas. This display is the exact reproduction of the scanned raster data. |
| **Adjusting the Image View** | The raster data displayed on the image canvas can be adjusted in size and can be rotated. When viewing images, the following menu selections are available. (See also visual QA Menu Bar Structure.)<br>• Fit To Window<br>• Full Scale<br>• 1 to 1 Pixel mapping<br>• Corner Zones<br>• Zoom Out<br>• Full Screen<br>• Invert Image<br>• Rotate 180<br>• Rotate Left 90<br>• Rotate Right 90<br>• Goto Upper Left Corner<br>• Goto Upper Right Corner<br>• Goto Center<br>• Goto Lower Left Corner<br>• Goto Lower Right Corner<br>• Show Scroll Grid |
| **All (Command)** | A command within the View menu from the main window menu bar. This command allows the user to view all the images in the active batch. |

| Command or Menu Item | Explanation |
|---|---|
| **Allow Empty Rev Zone** | During ID Evaluation, this option may be chosen (on or off) and JEDMICS/CADA will not look for zone # in the separate revision block. |
| **Allow Empty Sheet** | An Option item on the configure application screen that permits the user to pass ID evaluation of the image if sheet 1 of 1 is not in a sheet number box of a single sheet document. A keyword-value combination in the JEDMICS/CADA config file. |
| **Admin_Dir (JEDMICS/CADA's Administrative Directory)** | A writable directory that contains the log information stored by JEDMICS/CADA. A keyword-value combination in the JEDMICS/CADA config file. |
| **Alpha-Numeric Sorting** | This is an option in the Option Application window which determines whether JEDMICS/CADA will display, list, or report loaded images in "as received order" or "alpha numeric sort order." This ordering is based on the image index (drawing number, drawing type, sheet number, revision). Setting the Alpha Numeric Sort to On will cause the alpha numeric sort ordering to be used while viewing images, viewing the Batch Data List, generation of the Evaluation Report, and generation of the Batch Data List Report. If the Alpha Numeric Sort is Off, the images will then appear in the order in which they were found in the delivery set. A keyword combination in the JEDMICS/CADA config file. |
| **Automatic Run** | Automatic Run automatically evaluates and unloads the batch query. |
| **Automated Evaluation** | A user can start the Automated Evaluation session by selecting Evaluate Active Batch from the EVALUATE menu for unattended JEDMICS/CADA processing. |
| **Automatic Report Print** | JEDMICS/CADA automatically prints out the evaluation report for each sub-batch. All of the files that match the given query are downloaded evaluated and evaluation results printed out. |
| **Batch (MIL-STD-1840)** | JEDMICS/CADA performs its work on related sets of MIL-STD-1840A data called "batches." A |

| Command or Menu Item | Explanation |
|---|---|
| | MIL-STD-1840 batch is a group of related declaration header files and raster image files. The batch declaration file provides information about the identifications, source, destination, classification, number of images, etc. that make up the batch. The image headers contain information such as the raster image file name, revision, orientation, etc. The raster image files are stored using the Consultative Committee for International Telegraphy and Telephone (CCITT) Group 4 compressed data format. |
| **Batch (Menu)** | This menu accesses the following operations:<br>• Input,<br>• Open,<br>• Suspend,<br>• Remove,<br>• Display Batch Image List,<br>• Output to, and<br>• Quit JEDMICS/CADA. |
| **Batch Data List (Command)** | A command within the Report menu from the main window menu bar. This command prints or displays a report that contains general information on a batch. The report consists of a Batch Summary, an MIL-STD-1840 Batch Header Declaration, and a Batch Image List. This report is automatically generated upon the unloading of a batch. |
| **Batch Evaluation Summary** | The data shown in this window is a summary of the Automated Image Evaluation process. This window contains information entered by the Operator prior to the evaluation process, the number of files which have been Accepted or Rejected, and the Status of the entire data set. |
| **Batch Identification Window** | This window displays after a tape or a directory has been loaded. This dialog window is used to enter internal department data such as the Program Name, System Name, Prime Contractor Name, Description, Contract Identification, and Minimum percentage editable field. |
| **CALS Tape Output** | This command is located under the Batch menu |

| Command or Menu Item | Explanation |
|---|---|
| | MIL-STD-1840 batch is a group of related declaration header files and raster image files. The batch declaration file provides information about the identifications, source, destination, classification, number of images, etc. that make up the batch. The image headers contain information such as the raster image file name, revision, orientation, etc. The raster image files are stored using the Consultative Committee for International Telegraphy and Telephone (CCITT) Group 4 compressed data format. |
| **Batch (Menu)** | This menu accesses the following operations:<br>• Input,<br>• Open,<br>• Suspend,<br>• Remove,<br>• Display Batch Image List,<br>• Output to, and<br>• Quit JEDMICS/CADA. |
| **Batch Data List (Command)** | A command within the Report menu from the main window menu bar. This command prints or displays a report that contains general information on a batch. The report consists of a Batch Summary, an MIL-STD-1840 Batch Header Declaration, and a Batch Image List. This report is automatically generated upon the unloading of a batch. |
| **Batch Evaluation Summary** | The data shown in this window is a summary of the Automated Image Evaluation process. This window contains information entered by the Operator prior to the evaluation process, the number of files which have been Accepted or Rejected, and the Status of the entire data set. |
| **Batch Identification Window** | This window displays after a tape or a directory has been loaded. This dialog window is used to enter internal department data such as the Program Name, System Name, Prime Contractor Name, Description, Contract Identification, and Minimum percentage editable field. |
| **CALS Tape Output** | This command is located under the Batch menu |

| Command or Menu Item | Explanation |
|---|---|
| | from the main JEDMICS/CADA window and it enables the user to output MIL-STD-1840A formatted tapes. |
| **CAGE** | The identification number for a government contractor. This number is stored in the declaration header of an image in a batch. It should also be seen in the American National Standards Institute (ANSI) standard title block of the raster data. |
| **CALS Source Directory** | A readable directory that contain a CALS-compliant data set to be loaded into JEDMICS/CADA. These directories must contain the header and raster image files in the MIL-STD-1840A CALS-compliant format. Up to 10 directories can be specified. A keyword-value combination in the JEDMICS/CADA config file. |
| **CALS Type 1/2 Untiled** | Data that conforms to the 1840A and 1840B military standard for CALS data. |
| **Cancel** | Select CANCEL to terminate an operation specified by a dialog window or changes to an application. |
| **Check CAGE** | An Options item in the Evaluation Options screen that will check to see that the CAGE Code in the CALS header matches the CAGE Code in the Title Block. A keyword-value combination in the JEDMICS/CADA config file. |
| **Check for Special REV** | An Option item in the evaluation options screen that, if turned on, will evaluate each image to see if the revision letter in the title block matches the revision letter in the CALS header. If there is no revision letter in the title block, JEDMICS/CADA will check the revision block for a match. If there is no revision letter or no match, a mismatch error message will be produced. A keyword-value combination in the JEDMICS/CADA config file. |
| **Clear (Entered Note)** | This button will clear the contents of the Enter Note text edit field. To save a blank note, click the [Clear] button then click [Save] to close the window. To retain the previously cleared note, select [DO NOT SAVE]. |

| Command or Menu Item | Explanation |
|---|---|
| **Closed Batches (Command)** | A command within the Report menu from the main window menu bar. This command allows the user to open the reports of previously unloaded batches. The naming convention used for the report names are: batch#.report_type where report_type is either .cls (Evaluation Status) or. lst (Batch Data List). Also, .ql is a query report. |
| **Conversion Report** | Report that lists any problems with files as they are converted. |
| **CPI** | Characters per inch. Magnetic tape density is measured by the number of characters that can be recorded on 1 inch (2.54 cm) of magnetic tape. Common densities are 800, 1600, and 6250 cpi. |
| **Data_Dir** | A writable directory that contains the data sets loaded into JEDMICS/CADA. A keyword-value combination in the JEDMICS/CADA config file. |
| **Default rotation** | Automatically every image in a batch is evaluated for ID one time at the degree specified. |
| **Devices** | A group of options items in the Options Application window that allows the user to change the parameters of the following (see specific topics for further information).<br>• Tape (Device Name)<br>• Tape Density<br>• Printer ((Device Name)<br>• Printer Resolution<br>• Page Width and Height |
| **Directory (Command)** | A command within the Batch-Load sub-menu from the main window menu bar. This command inputs a batch from a proper option directory containing CALS MIL-STD-1840A batches. A subcommand under batch that will input a CALS Batch from a local directory. |
| **Display Batch Image List (Command)** | A command within the Batch menu from the main window menu bar. This command displays the list of images associated with an active batch. |

| Command or Menu Item | Explanation |
|---|---|
| **Enter Note (Sub-Command)** | A command within the Override menu from the visual QA menu bar. This command displays an editable text field that will accept up to 255 alphanumeric characters. It may be used by the operator to enter any pertinent information about an image (e.g., a reason for overriding the accept/reject status). This information will appear in the Evaluation Status report for the batch. |
| **Evaluation Estimate Window** | This window appears after the Evaluation command is issued and displays an estimated time that the automated evaluation will take to complete. |
| **Evaluate (Menu)** | This menu accesses the following operation: Evaluate Active Batch. |
| **Evaluate Active Batch (Command)** | A command within the Evaluate menu from the main window menu bar. This command starts the automated JEDMICS/CADA evaluation process. |
| **Evaluation Report Style** | An option on the Evaluation Options window that allows the user to print out either a full report or a report of rejects only. |
| **Evaluation Status (Command)** | A command within the Report menu from the main window menu bar. This command prints or displays a report that details the current status of the active batch. The report lists the batch header, total number of rejected and accepted images, and the CALS header ID information of each rejected and accepted image with its JEDMICS/CADA evaluation, user override status and other pertinent information to the user. This report is automatically generated upon the unloading of a batch. |
| **Fit To Window (Command)** | A command within the Modify Display menu from the visual QA menu bar and also a choice in the Options Application window. This command scales the raster data so that the entire image is displayed on the visual QA image canvas. |
| **Fix Rotation** | A command under override status in the VQA workspace that will change the rotation of the image. |

| Command or Menu Item | Explanation |
|---|---|
| **From Batch Image List... (Command)** | A command within the View menu from the main window menu bar. This command is used to select which individual images in a batch are to be viewed. |
| **Full Scale (Command)** | A command within the Modify Display menu from the visual QA menu bar and also in the Configure Application screen. This command scales the raster data so that the image is displayed at its actual physical size on the visual QA image canvas. |
| **Full Screen (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command increases the image canvas size. The JEDMICS/CADA evaluation status and CALS Header ID information will not be visible. |
| **Goto Lower Left Corner (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command automatically positions the image to display this corner. |
| **Goto Lower Right Corner (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command automatically positions the image to display this corner. |
| **Go to Center (Command)** | A command within the Modify Display menu from the visual QA menu Bar. This command automatically positions the image to display its center region. |
| **Goto Upper Left Corner (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command automatically positions the image to display this corner. |
| **Goto Upper Right Corner (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command automatically positions the image to display this corner. |
| **Hollerith Information** | Standard 80 column key punch card information that contains the document type, drawing number, FSCM, sheet number, revision letter, weapons system code, etc. See Key/Prod/JEDMICS topic for |

| Command or Menu Item | Explanation |
|---|---|
| | more information. |
| **ID Line** | This area at the top of the Visual QA workspace displays the header/index information (drawing number, sheet number, revision letter, etc.) in editable text fields. If the ID data in the image is found to be inconsistent with the displayed header data, by typing in the correct data and using the override commands, the user can update the header ID information of the image. |
| **Ignore Revision Sheet Zone** | An option on the Option Evaluation Screen that will not look for zone in the on the separate revision block during ID verification.. |
| **Image Canvas** | A window within the Visual QA workspace that displays the raster data image currently being reviewed. This window has scroll bars to allow for panning the contents of the image. |
| **Image Integrity Report** | This report lists the problems with the images such as non-compliance with C4 specifications or undesirable qualities. |
| **Image Quality** | A term that describes evaluation of an image based only on legibility and reproducibility. There are two settings: Legacy and New Contractor. These evaluate the image based on their respective thresholds. Image Quality can be carried out for the entire image or just within the located borders of the image. |
| **Image Validation** | A term that describes an evaluation based on two options parameters: border location and over scan limitations. |
| **Initial View** | This parameter determines what initial view JEDMICS/CADA will display images in the visual QA workspace. The different settings are FIT (Fit to Window), FULL (Full Scale), ONE ZONE (One to One), and ZONES (Corner Zones). A keyword-value combination in the JEDMICS/CADA config file. |
| **Invert (Command)** | A command within the Modify Display menu from |

| Command or Menu Item | Explanation |
|---|---|
| | the visual QA menu bar. This command will swap the image's background and foreground colors (e.g., change all white pixels to black pixels and all black pixels to white pixels). |
| **ID Verification** | This Option locates and recognizes ID within the raster image and verifies the accuracy of the supplied header ID information. |
| **Image Rotation** | This feature will automatically determine the proper rotation of the image. |
| **Intelligent rotation** | If no data for the ID is found on the first pass during ID verification, then JEDMICS/CADA will rotate the images in an attempt to find ID information. |
| **Index of the JEDMICS/CADA repository** | The list of available data within the JEDMICS/CADA repository. |
| **Input Data Formats** | The type of data that the JEDMICS/CADA system will process. |
| **Key/Prod/JEDMICS Button** | Clicking this button in the Visual QA workspace toggles the header display between the Key ID data and the Product Information Data and JEDMICS Header. |
| **Input (Command with Sub-menu)** | A command within the Batch menu from the main window menu bar. Via the Input sub-menu, either a JEDMICS Permanent, JEDMICS Pending, Tape or Directory batch can be input and made active. |
| **JEDMICS/CADA** | Permanent: Initiates or continues a query against Permanent storage. The Permanent repository where data is stored in a JEDMICS/CADA system. |
| **JEDMICS/CADA C4** | Data that conforms to the JEDMICS standard |
| **JEDMICS/CADA Housekeeping** | Routines that the user or system administrator needs to refresh JEDMICS/CADA system |
| **JEDMICS/CADA Pending** | The area of storage where new data waits to be incorporated into the permanent JEDMICS/CADA repository. |

| Command or Menu Item | Explanation |
|---|---|
| **JEDMICS/CADA Permanent** | The permanent repository where data is stored in a JEDMICS/CADA system. |
| **JEDMICS/CADA Query Criteria** | Information that must be entered into the JEDMICS/CADA criteria screen in order to execute a Query. |
| **Legacy** | A term referring to old data already used and stored in a repository. |
| **Main Window Menu Bar Structure**[1] | Batch<br>Input/Continue Query From<br>JEDMICS Permanent<br>JEDMICS Pending<br>Directory<br>Tape<br>Open<br>Suspend<br>Remove<br>Display Batch Image List<br>Output to<br>JEDMICS Pending<br>Directory<br>Tape<br>Quit JEDMICS/CADA<br><br>Evaluate<br>Evaluate Active Batch<br><br>View<br>All<br>Sort by...<br>Resume<br>From Batch Image List<br>Report<br>Evaluation Status<br>Batch Data List<br>Closed Batches<br>Conversion<br>Integrity Report<br>Pending Status Report<br><br>Options |

[1] See also: Visual QA Menu Bar Structure

| Command or Menu Item | Explanation |
|---|---|
| | Options Application<br>Options Evaluation<br>JEDMICS/CADA Housekeeping |
| | Status<br>Show Status Window |
| | Help<br>Help<br>Index Version |
| **Minimum Acceptable Percent** | An editable text field in the Batch Identification Window. The number entered here is dependent upon the facility or contract. The Percentage refers to the number of acceptable drawings contained within the entire batch. A keyword-value combination in the JEDMICS/CADA config file. |
| **Modify Display (Menu)** | This menu accesses the following operations: Fit To Window, Full Scale, 1 to 1 Pixel Mapping, Corner Zones, Zoom, Full Screen, Invert, Rotate Left 90, Rotate Right 90, Rotate 180, Goto Upper Left Corner, Goto Upper Right Corner, Goto Center, Goto Lower Left Corner, Goto Lower Right Corner, and Show Scroll Grid. |
| **Navigate** | A command on the Visual QA workspace menu bar with subcommands of next, previous image, print entire image, print image canvas and stop viewing. |
| **New Contractor** | Data received directly from a contractor. |
| **Next Image (Command)** | A command within the Navigate menu from the visual QA menu bar. This command displays the header ID information and raster data of the next image in the user specified list of images to view from the active batch, and brings up the next image onto the visual QA screen. |
| **Open (Command)** | A command within the Batch menu from the main window menu bar. This command opens a batch previously suspended (placed in the batch pool) and makes it the active batch. |

| Command or Menu Item | Explanation |
|---|---|
| **Options (Menu)** | This menu accesses the following commands: Application, Evaluation, and CADA Housekeeping. |
| **Options Application (Command)** | A command within the Options Menu which displays an Options screen with edit fields and radio buttons to allow the user to specify various settings that control most aspects of JEDMICS/CADA's operation. |
| **Options Evaluation (Command)** | A command within the Options Menu which displays an options screen with edit fields and radio buttons to control various aspects of JEDMICS/CADA's automated evaluation. When performing an evaluation, JEDMICS/CADA uses the settings last modified in the Options Screen. |
| **Output_Dir** | A writable directory that JEDMICS/CADA uses to output data sets. A keyword-value combination in the JEDMICS/CADA config file. |
| **Output to Directory** | Allows an 1840A input batch to be output to directory. |
| **Output to Pending** | After completion of batch processing, that user may elect to return the batch to JEDMICS/CADA pending. |
| **Output to Tape** | This command is under the Batch menu on the main Menu Bar and allows the user to output MIL-STD-1840A formatted tapes. |
| **Override JEDMICS/CADA (Command)** | A command within the Override Status... menu from the visual QA menu bar. This command allows the user to revert to original Header, fix the rotation or enter a note. The user can choose to accept or reject a file for image or ID. The choices are ACCEPT, IMAGE REJECT, ID REJECT, IMAGE AND ID REJECT, PLACE ON HOLD, or SEVER which prevents unloading of the batch until a final evaluation is conducted. |
| **Override Status Buttons** | These buttons on the Visual QA menu bar allow the user to override a CADA decision. |
| **Override Status... (Menu)** | This menu accesses the following operations: |

| Command or Menu Item | Explanation |
|---|---|
| | Revert to Original CALS header, Fix Rotation and enter note. |
| **Page (Width or Height)** | An option in the Application Options window that determines the printer output dimensions. A keyword-value combination in the JEDMICS/CADA config file. |
| **Pending Status Report** | A report that may be requested at any time. If there is an outstanding query against Pending this report will contain the current status of processing for the query. |
| **Previous Image (Command)** | A command within the Navigate menu from the visual QA menu bar. This command displays the CALS header ID information and raster data of the previous image in the user specified list of images to view from the active batch and brings that image up on the visual QA screen. |
| **Prime Contractor** | A field in the Batch Identification Window. Data entered will be on the packing slip or work order with each tape. |
| **Print Entire Image** | A command under the Navigate menu on the Visual QA window that allows the user to print out the entire image (file) that is currently displayed. Output is scaled to fit the page output dimensions. |
| **Print Image Canvas** | A command under the Navigate menu on the Visual QA screen that allows the user to print out the portion of the screen that the user chooses. |
| **Printer (Device Name)** | A configurable item in the JEDMICS/CADA Application Options window. A keyword-value combination in the JEDMICS/CADA config file. |
| **Printer Resolution** | An Option item in the JEDMICS/CADA Application Options window. A keyword-value combination in the JEDMICS/CADA config file. |
| **Program Name** | A field in the Batch Identification Window. Data entered will be on the packing slip or work order with each tape. |

| Command or Menu Item | Explanation |
|---|---|
| **Query Image Hit Limit** | The number of images that will be downloaded for a query. The default is 1000. |
| **Quit JEDMICS/CADA (Command)** | A command within the Batch menu from the main window menu bar. This command terminates a JEDMICS/CADA session. If a batch is active, it is suspended and placed in the batch pool before the application terminates. |
| **Reject Reason Display** | A scrolled text field (the upper right corner of the visual QA window) that displays the reason why an image was rejected (e.g., image quality, mismatch of the drawing number in the CALS header ID, etc.). |
| **Remote (Command)** | A command within the Batch-Load sub-menu from the main window menu bar. This command is not implemented in this version of JEDMICS/CADA. |
| **Remove** | A command within the Batch menu from main window menu bar that ends work on the active batch, generates a final report and deletes the batch from Batch pool. |
| **Remove Feedback Files** | Feedback files generated for development and problem resolutions are removed. |
| **Report (Menu)** | This menu accesses the following operations: Evaluation Status, Batch Data List, Closed Batches, and Integrity. |
| **Remove Report Files** | Query criteria and report files are removed. |
| **Reset Data Sets** | The batches that were input are removed from CADA. |
| **Reset Query Report Names** | User generated JEDMICS Query Names removed. |
| **Resume (Command)** | A Revision Status of Sheets is generated from the header information for first sheet of document and if from Review. |
| **Revision Status of Sheets Grid** | For the first sheet of a document, a Revision Status of Sheets is generated from the header information and a window will appear when from the view window, the Rev sheet grid button is clicked a |

| Command or Menu Item | Explanation |
|---|---|
| | window will appear. This grid displays the following information: Drawing number, Total Frames, and Total Expected Frames. For each frame within this document, the following information is displayed: file number, frame number, sheet number, and revision number. However, this information is only generated after an automated evaluation of the batch has been executed. |
| **Rotate 180 (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command rotates the image 180 degrees from its current orientation. |
| **Rotate Left 90 (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command rotates the image 90 degrees counter clockwise from its current orientation. |
| **Rotate Right 90 (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command rotates the image 90 degrees clockwise from its current orientation. |
| **Scroll Grid** | A grid that is overlaid on the image canvas to display the mouse-click scroll zones. The arrows within the various zones show the direction which the image will scroll when the right mouse button is clicked within its boundary. |
| **Show Image List** | This button is found on the Status Window and displays the batch list of the active batch. |
| **Show Scroll Grid (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command overlays a scroll grid on the image canvas to display the mouse-click scroll zones. |
| **Show Status Window (Command)** | A command within the Status menu from the main window and visual QA menu bars. The command displays a window that contains a summary of the information previously entered by the user and shows the evaluation status of the batch. |
| **Sort By... (Command)** | This command allows the operator to sort the images by JEDMICS/CADA Evaluation Status |

| Command or Menu Item | Explanation |
|---|---|
| | (e.g., all rejected images or all accept images, or header changes), by increment by any combination of key ID data, or by increment (e.g., every 5th image). |
| **Status (Menu)** | This menu accesses the following command: Show Status Window. |
| **Status Line** | This area at the top of the Visual QA workspace displays the information about the current image being viewed. The information consists of image (file) number in the batch, its evaluation status, the override status, the override buttons, enter note field, and rev grid field. The small window in the upper right hand corner displays the reject reason when applicable. |
| **Status Window** | The data displayed in this window is a summary of the information previously entered by the user and shows the evaluation status of the batch. The text field at the bottom of the window always displays the next recommended action. The user can also display the image list of the active batch. |
| **Stop Viewing (Command)** | A command within the Navigate menu from the visual QA menu bar. This commands terminates the visual QA session. |
| **Suspend (Command)** | A command within the Batch menu from the main window menu bar. This command deactivates an active batch and places it in a batch pool for later use. |
| **System Name** | A field in the Batch Identification Window. Data entered for this field will be on the packing slip or work order with each tape. Some valid system names are: DSREDS, EDCARS, EDMICS, and DLA. |
| **Tab** | Use the <TAB> key to navigate editable text fields. Depress <TAB> to move forward or <SHIFT> + <TAB> to move backward. |
| **Tape (Command)** | A command within the Batch-Load sub-menu from the main window menu bar. This command loads a |

| Command or Menu Item | Explanation |
|---|---|
| | batch from a user specified number of tapes containing CALS MIL-STD-1840A batches. A keyword-value combination in the JEDMICS/CADA config file. |
| **Tape (Device Name)** | This parameter specifies the device path name of the 9-track tape drive JEDMICS/CADA uses for input and output of CALS data. A keyword-value combination in the JEDMICS/CADA config file. |
| **Tape Density** | This parameter specifies the input and output tape densities JEDMICS/CADA will use to load or output CALS data to a 9-track tape device. A keyword-value combination in the JEDMICS/CADA config file. |
| **TIFF 6.0 Tiled/Untiled (uncompressed, lzw, packbits, Grp 3/4)** | A raster graphics data format used in JEDMICS/CADA. |
| **View (Menu)** | This menu accesses the following commands: All, Sort By..., Resume, and From Batch Image List. |
| **Visual QA Menu Bar Structure**[2] | There are several sub-menus and windows which can be accessed from the View Windows. These are listed below.<br>Navigate<br>Next Image<br>Previous Image<br>Print Entire Image<br>Print Image Canvas<br>Stop Viewing<br><br>Modify Display...<br>Fit To Window<br>Full Scale<br>1 to 1 Pixel Mapping<br><br>Zoom<br>Full Screen<br>Invert<br>Rotate Left 90<br>Rotate Right 90<br>Rotate 180 |

[2] See also: Main Window Menu Bar Structure

| Command or Menu Item | Explanation |
|---|---|
| | Goto Upper Left Corner<br>Goto Upper Right Corner<br>Goto Center<br>Goto Lower Left Corner<br>Goto Lower Right Corner<br>Show Scroll Grid<br>Corner Zones<br>Override Status...<br>Revert to Original CALS Header<br>Fix Rotation<br>Enter Note<br><br>Status<br>Show Status Window |
| **Zoom In** | Enlarges a portion of a displayed image. Using the mouse, hold down the select button and surround the area to be enlarged. Release the select button and the outlined area will be enlarged to fit the image canvas size. |
| **Zoom Out (Command)** | A command within the Modify Display menu from the visual QA menu bar. This command reduces the zoom level of an image to display 50 percent more information. |

# APPENDIX B
# The JEDMICS/CADA Configuration File: *cada.config*

## JEDMICS/CADA Default Parameters

The JEDMICS/CADA default parameters may be changed by editing the ***cada.config*** file using a text editor (e.g., vi text edit) or setting options using the Options windows from within JEDMICS/CADA. These options control various aspects of JEDMICS/CADA's operation such as the location where the data and log files are stored, automated evaluation parameters, and device locations/configurations. There are three Options windows: an Evaluation specific window, an Application window and a Housekeeping sub-menu with four choices. The windows can be accessed by using the Application Options, Evaluation Options, or Housekeeping commands. Detailed information about the effect and use of each option follows in the table and option descriptions.

**Table 1. Valid Keywords and Values for the *cada.config* File**

| Category | Keyword | Valid Values |
|---|---|---|
| JEDMICS/CADA DIRECTORIES | | |
| | Data_dir | any writable directory |
| | Log_dir | any writable directory |
| | Admin_dir | any writable directory, defaults to LOG_DIR when not set |
| | Tape_ Output_Dir | any writable directory |
| | Dir_Output_Dir | any writable directory |
| CALS SOURCE DIRECTORIES | | |
| | CALS_Directory | any readable directory |
| DEVICES | | |
| | Tape | a valid /dev/??? tape device name |
| | Tape_density | 1600 or 6250 |
| | Printer | a valid /dev/??? printer device name |

| Category | Keyword | Valid Values |
|---|---|---|
| | Printer_resolution | 200 ≤ X ≤ 600 |
| | Page_width | 5.0 ≤ X ≤ 10.5 |
| | Page_height | 5.0 ≤ X ≤ 16.5 |
| MISC A | | |
| | Alpha_Numeric_Sort | On or Off |
| | Developer_Feedback | On or Off |
| | Initial_View | Fit, Full, One2One, Zones |
| IMAGE QUALITY | | |
| | IMG_Q_Approach | Legacy, or Strict |
| | Check_Quality | Entire or Within |
| IMG VALIDATION | | |
| | Run_Validation | On or Off |
| | Min_ Doc_ Dim | ≤ 70 |
| | Max_ Doc_Dim | ≤ 130 |
| ID VALIDATION | | |
| | Run_ ID | On or Off |
| | Check_Special_Rev | On or Off |
| | Check_Cage | On or Off |
| | Allow_Empty_Sheet | On or Off |
| | Ignore_Rev_Zone | On or Off |
| ROTATION | | |
| | Intelligent_Rotation | On or Off |
| | Default_Rotation | 0, 90, 180, 270 |

| Category | Keyword | Valid Values |
|---|---|---|
| MISC B | Max_Jmx_Batch_Cnt | $1 < x \leq 500$ |
| | Automatic Run | On or Off |
| | Automatic Print | On or Off |
| | Eval_Report_Style | Full or Rejects |
| | Max_Image_Hit_Limit | $1 < x \leq 2000$ |

## 1. DIRECTORIES:

**CADA Batch Data Files Directory** (Data_dir: any writable directory): A writable directory that contains the data sets loaded into JEDMICS/CADA.

**CADA Log Files Directory** (Log_dir: any writable directory): A writable directory that contains the log information stored by JEDMICS/CADA.

**CADA Administrative Files Directory** (Admin_dir: any writable directory, defaults to LOG_DIR when not set): A writable directory that contains the log information stored by JEDMICS/CADA.

**CALS Temporary Output Directory** (Tape_Output_Dir: any writable directory): A writable directory that serves as the temporary storage for CALS files that will be output to tape.

**CALS Temporary Output Directory** (Dir_Output_Dir: and writable directory) A writable directory that serves as the storage for files that are output to directory.

## 2. CALS SOURCE DIRECTORIES

A readable directory that contains the image data set to be loaded into JEDMICS/CADA. These have to be valid directories on the machine and must contain the header and raster image files in the MIL-STD-1840A CALS-compliant format. Up to 10 directories can be specified.

## 3. DEVICES:

**Tape Device** (Tape: a valid /dev/??? tape device name): This parameter specifies the device path name of the 9-track tape drive JEDMICS/CADA uses for input and output of CALS data.

**Tape Device Output and Input Tape Density** (Tape_density: 1600 or 6250): This parameter specifies the input and output tape densities JEDMICS/CADA will use to load or output CALS data to a 9-track tape device.

**Printer** (Printer: a valid /dev/??? printer device name): This parameter specifies the device path name of the Postscript printer JEDMICS/CADA uses to print reports and images.

**Printer Resolution** (Printer_resolution: 200 ≤ X ≤ 600): This parameter specifies what device JEDMICS/CADA will use to print reports and images.

**Printer Page Area Width Dimension** (Page_width: 5.0 ≤ X ≤ 10.5): This parameter specifies the maximum page width JEDMICS/CADA will use to print images.

**Printer Page Area Height Dimension** (Page_height: 5.0 ≤ X ≤ 16.5): This parameter specifies the maximum page height JEDMICS/CADA will use to print images.

## 4. MISC:

**Alpha-Numeric Sorting** (Alpha_Numeric_Sort: Fit, Full, One2One, Zones): JEDMICS/CADA will display, list, or report loaded images in either "as received order" or "alpha numeric sort order." This ordering is based on the image index (drawing number, drawing type, sheet number, and revision). This sorting can be toggled at any time from the Application Configuration window which is accessed via the Configuration Menu. Setting the Alpha Numeric Sort to On will cause the alpha numeric sort ordering to be used while viewing images, viewing the Batch Data List, generation of the Evaluation Report, and generation of the Batch Data List Report. If the Alpha Numeric Sort is Off, the images will then appear in the order in which they were found in the delivery set.

**Developer Feedback** : When this is On the log files are saved that are important for solving problems.

**Initial View in Visual QA Workspace** (Initial_view: On or Off): This parameter determines what initial view JEDMICS/CADA will display images in the Visual QA workspace. The different parameters are FIT (Fit to Window) and FULL (Full Scale).

## 5. IMAGE QUALITY:

**Image Quality Analysis** (IMG_Q_Approach: Legacy, or New Contractor) This parameter specifies the Image Quality parameters thresholds JEDMICS/CADA uses to evaluate images in a batch.

**Check Quality** : This parameter specifies the area of the image that will be evaluated in coordination with the data type chosen.

## 6. IMAGE VALIDATION:

**Run IMG Validation Checks** (Run_Validation: On or Off): This parameter determines whether JEDMICS/CADA will perform image validation during an automated evaluation. Image validation consists of checking the image size, skew correction, and border location. If RUN_ID parameter is TRUE, then this parameter is toggled to ON.

**Minimum Underscan Percentage** (Min_doc_dim: 70.0 ≤ X ≤ 100.0): This is the minimum acceptable image size as a percentage of the nominal dimension specified in ANSI Y14.1.

**Maximum Overscan Percentage** (Max_doc_dim: 100.0 ≤ X ≤ 130.0): This is the maximum acceptable image size as a percentage of the nominal dimensions specified in ANSI Y14.1.

## 7. ID VALIDATION:

**Run ID Validation Checks** (Run_ID: ON or OFF): If set to ON, the ID Validation is performed on the batch during an evaluation.

**Check for Special Revision Block during ID Validation** (Check_special_rev: On or Off): If set to ON, JEDMICS/CADA checks for a separate revision block offset from the top border if the revision level cannot be found in the title block.

**Check for CAGE Code during ID Validation** (Check_cage: On or Off): If set to ON, the CAGE code is checked during ID Validation.

**Allow an empty sheet box during ID Validation** (Allow_empty_sheet: On or Off): If set to ON, it allows for an image to pass ID Validation if the first sheet of a document does not have sheet number 1 in the title block.

**Ignore Rev Zone** : (Ignore_Rev_Zone ON or OFF) If this is ON, JEDMICS/CADA will ignore any information contained within the separate Revision Block.

## 8. ROTATION:

**Intelligent Rotation** (Intelligent_Rotation: ON or OFF) If this is ON, and during the first pass at ID verification and not enough information is found to do an ID verification, JEDMICS/CADA will try to rotate the image based on orientation of the file to find more ID information. If this is OFF then JEDMICS/CADA , not finding enough information after the first pass will go on to the next image.

**Default Rotation** (Default Rotation 0, 90, 180, 270) If the user knows that 100% of the images are rotated to one of the above degrees then the default may be chosen. If Intelligent rotation is OFF, all the images will be evaluated according to the default chosen. (Note: if there are any that are not rotated according to the default they will be skipped.)

## 9. MISC B:

**Max Sub-Batch Size** (Max_Jmx_Batch_Cnt: 1 < x ≤ 500) This parameter determines the approximate number of images per sub-batch.

**Automatic_Run** (Automatic_Run: ON or OFF): If this is ON, when doing a JEDMICS Query from Permanent or Pending , the downloaded files will be automatically evaluated.

**Automatic Print** (Automatic_Print: ON or OFF) If this feature is ON then the Evaluation reports will be automatically printed out upon completion of the evaluation.

**Evaluation Report Style** (Eval_Report_Style Full or Rejects Only) If this feature is On then every evaluated image will appear on the report. By choosing Rejects Only, only those images that JEDMICS/CADA rejects will be printed on the report.

**Query Image Hit Limit** (Jmx_Image_Hit_Limit 1000) The Maximum number of images in a batch is 1000.

```
%CADA_ DIRECTORIES
DATA_ DIR:                  /home/cada/cecom/data/dat
LOG_DIR:                    /home/cada/cecom/data/log
ADMIN_DIR:                  /home/cada/cecom/data/log
TAPE_OUTPUT DIR:            /home/cadacecom/tape_output
DIR_OUTPUT_DIR:             /home/cada/cecom/tape_output

%CALS SOURCE DIRECTORIES
CALS_DIRECTORY:             /home/cada/datasets/userdemo

% DEVICES
TAPE:                       /dev/rst17
TAPE_DENSITY                6250
PRINTER:                    /dev/lp
PRINTER_RESOLUTION:         300
PAGE_WIDTH:                 8.0
PAGE_HEIGHT                 10.5
AUDIO:                      OFF

%MISC A
MIN_ACCEPT_PCT:             98.0
ALPHA_NUMERIC_SORT:         OFF
DEVELOPER_FEEDBACK:         ON
INITIAL_VIEW:               FIT

%IMG QUALITY
IMG_Q_APPROACH:             LEGACY
CHECK_QUALITY               ENTIRE

%IMG VALIDATION
RUN_VALIDATION:             ON
MIN_DOC_DIM:                70.0
MAX_DOC_DIM:                130.0

%ID VALIDATION
RUN_ID:                     OFF
CHECK_SPECIAL_REV:          ON
CHECK_CAGE:                 ON
ALLOW_EMPTY_SHEET:          ON
IGNORE_REV_ZONE:            ON

%MISC B
MAX_JMX_BATCH_CNT:          100
AUTOMATIC_RUN:              OFF
AUTOMATIC_PRINT:            OFF
EVAL_REPORT_STYLE           FULL
JMX_IMAGE_HIT_LIMIT:        1000
```

**Figure B-1 The *cada.config* File**

# APPENDIX C
# How to Configure a CALS Source Directory

A CALS source directory must contain a declaration header and CALS raster image files (as specified in MIL-STD-1840 and MIL-R-28002 respectively) for all the documents in a delivery. The filenames must be capitalized. The following is an example listing of a two drawing batch.

| | |
|---|---|
| D001 | Declaration header file for first document |
| D001R001 | Raster files for this 3 image document |
| D001R002 | |
| D001R003 | |
| | |
| D002 | Declaration header file for second document |
| D002R001 | Raster files for this 4 image document |
| D002R002 | |
| D002R003 | |
| D002R004 | |

If you are creating a batch from scratch, the declaration header must have the same keyword identifiers as listed below (Declaration File Contents). The values for the keywords should conform to MIL-STD-1840A. The *filecnt* tag on line 11 should specify how many images belong to a particular document. Each of the keyword-value combinations are placed on separate lines.

**Declaration File Contents:**

| | |
|---|---|
| srcsys: | CALS Technology Center (CTC) - Ft. Monmouth, NJ |
| srcdocid: | Document 1 |
| srcrelid: | None |
| chglvl: | Original |
| dteisu: | 19931108 |
| dstsys: | CADA Test Sites |
| dstdocid: | None |
| dstrelid: | None |
| dtetrn: | 19931108 |
| dlvacc: | None |
| filcnt: | R100 |
| ttlcls: | Unclass |
| doccls: | Unclass |
| doctyp: | Engineering Drawings |
| doctt1: | None |

# APPENDIX D
# Basic Concepts of Data Acceptance

## Overview

Data Acceptance is the application of QA to product data at key points in the procurement process, prior to the storage of that data in a government repository. Acceptance of product data helps a government agency to ensure that all product data stored in its repository is of high quality.

Data acceptance consists of image quality checks image validation and key ID header verification checks. These processes are extremely time consuming and, hence, expensive when done manually. Computer-assisted techniques can be used to automate data acceptance to reduce the amount of visual inspection required.

Data acceptance can be performed at a contractor site, a government site, or both sites. The degree of data acceptance performed at any site depends on circumstances and is specified by contract.

Data acceptance is performed by a government representative who is a qualified inspector of engineering data. The qualification includes training and experience in the use of computer systems and peripheral devices, and recent involvement in the acceptance of engineering data in the micrographic format.

Data Quality: JEDMICS/CADA determines quality based on three basic criteria: data format, image quality, and image ID.

**Data Format:** The format of the deliverable files must comply with MIL-STD-1840 specification. Briefly, this means that raster files must be stored in CCITT Group 4 or C4 compressed data format. Image files must have the required header records and be grouped with the required declaration files.

The degree of compliance depends on the environment in which the files are verified. If the files are verified on a deliverable physical medium, the format of the files and their physical order can be verified. If the files are verified before they are copied on a deliverable medium, only the format of the individual files can be verified.

**Image Quality:** Image quality of a raster image determines its legibility and reproducibility. The three key image quality criteria are listed below.

**Contrast:** Image quality is a function of contrast. Poor quality images will appear too light or too dark. Poor quality images will appear significantly darker or lighter than the acceptable range.

**Noise:** Image noise appears as black and white orphan pixels superimposed on a raster image. An orphan is a pixel or small group of pixels that is completely surrounded by the contrasting color. A black orphan is a dark orphan surrounded by white space. A white orphan is a white speckle in a filled-in

image area (e.g., a line, a character, etc.). An orphan pixel is likely to represent noise instead of image data. An excess of orphan pixels is likely to be noise introduced by the image generation process.

**Verticality:** This is the angle of orientation of the image with respect to the viewer's reference frame. An excessively skewed image is likely to be missing information due to cropping at the corners.

Image quality is an issue primarily when evaluating raster image data that was digitized from hard copy or aperture card source data. The quality of the raster image may be poor because the source image quality was poor or because noise was introduced by the digitizing process. It is not an important issue when dealing with raster image data files that were generated directly from a CAD system.

**ID:** ID quality depends on an exact match between the ID on a digitally stored image and the ID in the CALS header. Incorrectly entered data for the header results in poor ID quality.

For raster product data, the ID is obtained from the image file by applying character recognition techniques to convert pixel data in the title and revision block areas to ASCII text.

### Data Acceptance Functions

Data Acceptance is the evaluation of data against data quality criteria to determine if that data should be accepted or rejected. The following is a list of the key functions of Data Acceptance.

- Make an objective evaluation of the contents of the data files using data quality criteria.
- Make a subjective evaluation of the contents of the data files by visually inspecting them.
- Make an accept/reject decision about each data file.
- Make an accept/reject decision about the entire deliverable. This is primarily based on the minimum acceptable percentage: the percentage of accepted files with respect to the total number of files.
- Document the decision made and the supporting information required to make the decision. The documentation includes all identifying information necessary to certify or to authenticate the data.

A record of data acceptance information is maintained. This record contains information about the data files including the results of the objective and subjective evaluation, and the decision made.

The criteria used in making the accept/reject decisions depends upon the circumstances of each procurement contract. For example, user sites may weigh quality criteria differently, the minimum acceptable percentage may vary from contract to contract, etc.

### Contractor Site Data Acceptance

At the contractor site, data acceptance is one component of the Product Data Generation process. A major objective of data acceptance at the contractor or subcontractor site is to correct problems in product data before it is shipped to the user site. Data acceptance may be omitted if the contract specifies it at the user site only.

Data acceptance may be performed on the image data base system, a front-end to the image data base system, or a stand-alone system. A front-end system or a stand-alone system may be either contractor-furnished or government furnished.

For erasable physical media, acceptance may be performed on the data either on deliverable media or in a Deliverable Files data base. For write-only deliverable media such as optical disk, economic considerations dictate that acceptance be performed on data in the Deliverable Files data base. For telecommunications, the only data on which acceptance can be performed is in the Deliverable Files data base.

The accept/reject report produced by data acceptance is used to determine the destination of the deliverable data. Accepted data is delivered to the government site. Rejected data is returned to the contractor for correction.

It is recommended that acceptance be iterated until there is no rejected data. That is, the contractor will correct any data rejected by acceptance. This will ensure that only accepted data will be delivered to the user site.

### User Site Data Acceptance

At the user site, acceptance is one component of the Product Data Acceptance. A major objective of acceptance at the user site is to reduce the impact of Data Acceptance on the user staff.

Data acceptance may be performed on the repository system, a front-end to the repository system, or a stand-alone system.

The deliverable data may be received by physical media or by telecommunications and stored in a Deliverable Files data base. Data acceptance is performed on data in this data base, i.e., in CALS format before the data is translated to the repository system native format.

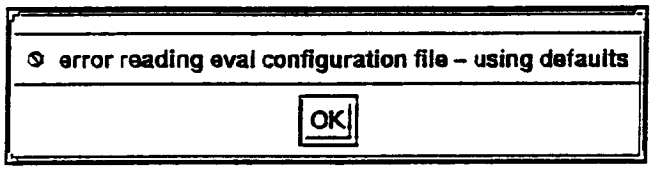
If the data cannot be loaded onto the JEDMICS/CADA system, it is rejected and returned to the contractor.

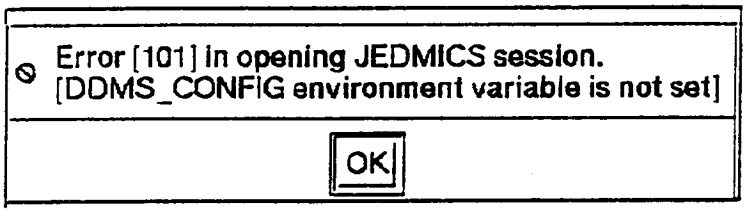
The accept/reject report produced by acceptance is used to determine the destination of the deliverable data. Accepted data is translated and stored in the repository system. Rejected data is returned to the contractor for correction. Final acceptance of the CALS contractor-delivered data may be performed via use of the JEDMICS/CADA system or after JEDMICS/CADA pre-acceptance on the repository system by sampling only.

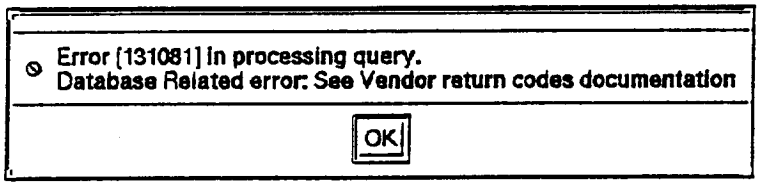
# APPENDIX E
# Basic JEDMICS/CADA Error Messages

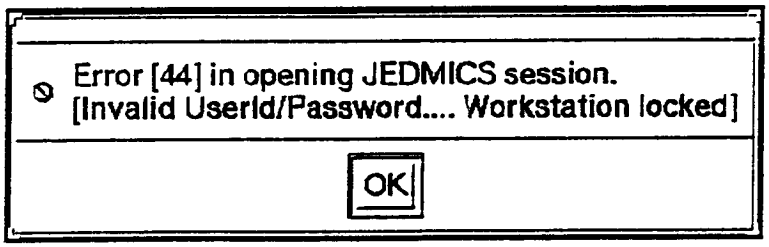
CADA produces the following two types of error messages:

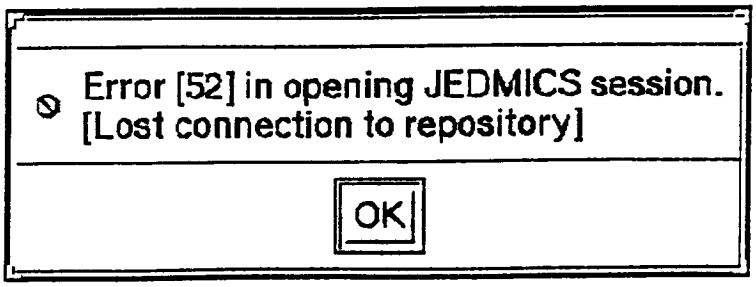
## E.1 Examples of Error Messages Communicated to Users through XVT Messages

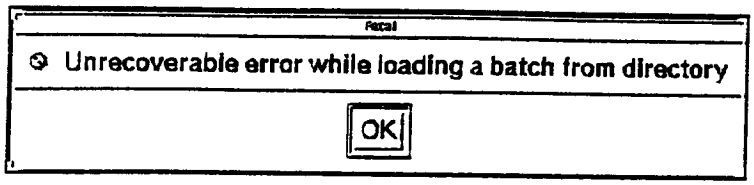





### E.1.1 Text Field Flags

**Batch Identification Screen:** Upon loading a batch, the user is prompted to enter information for Program Name; System Name; Prime Contractor; Description; Contract Identification; and Minimum Acceptable Percent. If any of these fields is left blank (or the entered data does not meet the necessary requirements) when the user tries to exit this screen, a message will be displayed indicating that information is required.

*Corrective Action*: Enter all required data.
*Restrictions*:

| | |
|---|---|
| Contract Identification | 32 characters maximum |
| Description | 255 characters maximum |

**CADA Output Information Screen:** When outputting a tape, the user is prompted to enter information for source system (srcsys:) and destination system (dstsys:). If any of these fields is left blank (or the entered data does not meet the necessary requirements) when the user tries to exit this screen, a message will be displayed indicating that information is required.

The user may also output the entire set or only the ACCEPTED or REJECTED images from the set. If the user selects a set for which there are no images, a message will appear indicating that another selection must be made.

*Corrective Action*: Enter all required data.
*Restrictions*:

| | |
|---|---|
| source system | 255 characters maximum |
| destination system | 255 characters maximum |

**CADA View Module:** Override CALS header. If the user enters incorrect data in the header fields he/she will be prompted for the correct information.

*Corrective Action*: Enter all required data.
*Restrictions*:

| | |
|---|---|
| drawing type | two upper case alphanumerics |
| drawing number | 15 uppercase alpha numerics (can have dashes) |
| CAGE | 5 alpha numerics |
| size | can only be A,B,C,D,E,F,J |
| sheet | three or four numerics |
| revision | two upper case alphas excluding I,O,Q,S,X,Z |

### E.1.2 Errors Reading/Writing Files and Allocating Memory

There are many places where errors may appear which deal with reading files or allocating memory. The following are potential problems:

initializing batch
initializing evaluation configuration
initializing ID QA software
updating datalist record
opening datalist file
reading datalist file
allocating memory for datalist
writing new header for image file
insufficient disk space
insufficient memory
reading/opening help file
opening save view list
writing view list
reading view list

*Corrective Action*: Most of these error require the intervention of the system administrator. The user should note the error message and contact the system administrator. For some of these errors, the user may be prompted to try a corrective action. If this does not correct the problem, contact the system administrator.

### E.1.3 Fatal Error Messages

If a fatal error message is encountered, a message will appear stating that a Fatal Error has occurred and the cause of the error. CADA will then terminate.

*Corrective Action*: The user should note the reported cause of the error and contact the system administrator.

## E.2 Error Messages/Comments Communicated to Users and Maintenance Personnel through the Log File

Enormous effort has been made for JEDMICS/CADA to thoroughly communicate actions and errors to maintenance personnel. This is accomplished through the logging of messages to the cada.log file. Essentially every user action and every JEDMICS/CADA software response is reported to this file with an operator identification and time and date stamp.

The messages written to this file are dispersed throughout the code and may be found by searching for the cda_log function call. An example of the cada.log file is depicted in Figure E-1

```
xterm
10/30/96 10:17:01
10/30/96 10:17:01 /home/cadadev/cecom/data/dat/4/Set001/D005/D005R002
10/30/96 10:17:01 Border: top = 0 bottom = 4362 left = 0 right = 3424
10/30/96 10:17:01 tiles are top: 0 bottom: 34 left: 0 right: 26
10/30/96 10:17:01 First pass Image Quality Analysis
10/30/96 10:17:02   ABO:   0.005  AWO:   0.191  RL:   0.154  FF:   4.541
10/30/96 10:17:08 border [REAL]: left = 81 right = 4227 top = 99 bottom = 3261
10/30/96 10:17:08
10/30/96 10:17:08 IMG Result: ACCEPT
10/30/96 10:17:08 [  ]10210438          sh: 001  rev:  E  sz: C  cg: 18876
10/30/96 10:17:12 after title block processing
10/30/96 10:17:12 dwgtype: 2  dwgno: 1 cage: 1 sheet: 1 rev: 0 size: 1
10/30/96 10:17:13 approach1: shifting to the right
10/30/96 10:17:13 looking for continuation rev block
10/30/96 10:17:13 Making second attempt to find separate REVISION title box
10/30/96 10:17:13 REVISION title box not found
10/30/96 10:17:13 after separate rev block processing.
10/30/96 10:17:13 dwgtype: 2  dwgno: 1 cage: 1 sheet: 1 rev: 0 size: 1
10/30/96 10:17:13 Revision Letter Mismatch
10/30/96 10:17:13
10/30/96 10:17:13
10/30/96 10:17:13 /home/cadadev/cecom/data/dat/4/Set001/D005/D005R009
10/30/96 10:17:13 Border: top = 0 bottom = 8640 left = 0 right = 5728
10/30/96 10:17:13 tiles are top: 0 bottom: 67 left: 0 right: 44
10/30/96 10:17:13 First pass Image Quality Analysis
10/30/96 10:17:15   ABO:   0.016  AWO:   0.371  RL:   0.577  FF:   3.437
10/30/96 10:17:34 border [REAL]: left = 315 right = 8103 top = 252 bottom =
10/30/96 10:17:34 No equivalent detailed reason for 10007.
10/30/96 10:17:34   HIGH APPROX BLACK ORPHANS
10/30/96 10:17:34 IMG Result: REJECT
10/30/96 10:17:34 [  ]10250674          sh: 002  rev:  U  sz: F  cg: 18876
10/30/96 10:17:34 Ignoring the invalid entries in title_sz.dbs file for cag
e 18876  and size 7
10/30/96 10:17:39 after title block processing
10/30/96 10:17:39 dwgtype: 2  dwgno: 0 cage: 0 sheet: 0 rev: 0 size: 0
10/30/96 10:17:39 Will try to rotate the image by 180 degrees.
10/30/96 10:17:43 rotate_180_title: after title block processing
10/30/96 10:17:43 dwgtype: 2  dwgno: 0 cage: 0 sheet: 0 rev: 0 size: 0
10/30/96 10:17:44 approach4: shifting to the right
```

**Figure E-1. The *cada.log* File**

# APPENDIX F
# Evaluation Error Codes

## F-1. Image Evaluation Error Codes

| | | |
|---|---|---|
| 1. | Noisy image due to black pixels. | NzBL |
| 2. | Noisy or faded image due to white pixels. | NzWT |
| 3. | Very dark image. | DARK |
| 4. | Very light image. | LITE |
| 5. | Degraded area(s). | Degr |
| 6. | Image has noisy areas. | ImNZ |
| 7. | Noisy area(s). | ImNZ |
| 8. | Faded area(s). | ImFD |
| 9. | Severe Image - ALL BLACK. | AllB |
| 10. | Severe Image - ALL WHITE. | AllW |
| 11. | Faded Upper Left Corner. | ULFD |
| 12. | Faded Upper Right Corner. | URFD |
| 13. | Faded Lower Left Corner. | LLFD |
| 14. | Faded Lower Right Corner. | LRFD |
| 15. | Upper Left Zone. | ZnUL |
| 16. | Upper Right Zone. | ZnUR |
| 17. | Lower Left Zone. | ZnLL |
| 18. | Lower Right Zone. | ZnLR |

## F-2. ID Evaluation Error Codes

| | | |
|---|---|---|
| 1. | Drawing Type mismatch. | DwgT |
| 2. | Drawing Number mismatch. | DwgN |
| 3. | CAGE code mismatch. | Cage |
| 4. | Size Letter mismatch. | Size |
| 5. | Revision Letter mismatch. | Rev |
| 6. | Sheet Number mismatch. | ShtN |
| 7. | Acc.Doc. Number mismatch | ADwN |
| 8. | Acc.Doc. Revision mismatch | ARev |
| 9. | Acc.Doc. Type mismatch | ATyp |
| 10. | Part of a J size drawing. | J Sz |
| 11. | Contains the ID data for the J size dwg. | J Id |
| 12. | No ID data found in this frame of J size dwg. | NoID |
| 13. | Could not process title block. | -TBE |
| 14. | Error in locating ID information at alternate locations. | -ID2 |
| 15. | Could not process this associated list. | -AL |
| 16. | Could not process separate revision block. | -Rev |

## F-3. Image Validation Error Codes

| | | |
|---|---|---|
| 1. | Could not locate left or right border. | BorT |
| 2. | Could not locate top or bottom border. | BorS |
| 3. | Image has invalid physical dimensions. | DimE |
| 4. | CALS header has invalid size character. | IvSz |
| 5. | The physical drawing size is Landscape A. | LanA |
| 6. | The physical drawing size is Portrait A. | PorA |
| 7. | The physical drawing size is Landscape B. | LanB |
| 8. | The physical drawing size is Portrait B. | PorB |
| 9. | The physical drawing size is C. | C Sz |
| 10. | The physical drawing size is D. | D sz |
| 11. | The physical drawing size is E. | E sz |
| 12. | The physical drawing size is F. | F sz |

## F-4. Internal Conversion Error Codes

| | | |
|---|---|---|
| 1. | Type 2 to Type 1 conversion error. | 2T>1 |
| 2. | Error in CALS to TIFF Conversion. | CtoT |
| 3. | Type 2 Untiled to Type 1 conversion error. | 2U>1 |
| 4. | C4 to Type 1 conversion error. | C4>1 |
| 5. | EDCARS to Type 1 conversion error. | ED>1 |
| 6. | DSREDS to Type 1 conversion error. | DS>1 |
| 7. | TIFF to Type 1 conversion error. | TF>1 |
| 8. | Unknown image type | UnkI |

## F-5. JEDMICS Related Error Codes

| | | |
|---|---|---|
| 1. | JEDMICS Unable to Retrieve Image | Rtrv |
| 2. | JEDMICS Platter is Off-Line | PO-L |

## F-6. Miscellaneous Error Codes

| | | |
|---|---|---|
| 1. | Fatal error in image quality evaluation. | *ImQ |
| 2. | Error in the image data. | *FIL |
| 3. | Error in decompressing the image data. | *Dec |

# Appendix G
# JEDMICS Configuration Files

## G-1. config

This file contains specific information for the JEDMICS configuration. The entries for IMS_HOST and IMS_SERVICES_FILE must be modified to reflect the specifics of the machine running JEDMICS/CADA.

The value for the IMS_HOST must be obtained from a JEDMICS system administrator. The entry for the IMS_SERVICES_FILE must contain the full path to the services file in the support_files directory (within the CADA tree).

```
IMS_LOG_LEVEL      =  1
IMS_DB_LOG_LEVEL   =  1
IMS_HOST           =  egdw7
IMS_SERVICES_FILE  =  /home/cada/cecom/bin/support_files/services
IMS_ETC_DIR        =  /edmics/etc/
IMS_LOG_DIR        =  /edmics/log/
IMS_MDS_HOME       =  /edmics/mds/
IMS_RPT_DIR        =  /edmics/reports/
IMS_TMP_DIR        =  /edmics/tmp/
```

## G-2. jmx_connect.txt

This file contains the log-in information specific for the JEDMICS log-in: *host* must contain the host name contained in the services file; *user* is the user log-in name, and *passwd* is the password for the log-in.

```
host:    jedmicssite
user:    cada
passwd:  cadapassword
```

## G-3. services

This file performs the mapping between the host name (specified in the jmx_connect.txt file and the IP address for the JEDMICS site.

```
#
#       Services file for SASS System
#
#       contains :  <node,addr,port,service,...>
#
        jedmicssite   136.205.15.101  4004   rdb
        jedmicssite2  134.80.88.1     4004   rdb
```